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Karen Chapple and Anastasia Loukaitou-Sideris

TRANSIT-ORIENTED DISPLACEMENT OR COMMUNITY DIVIDENDS?

Understanding the Effects of Smarter Growth on Communities

Transit-Oriented Displacement or Community Dividends?

Urban and Industrial Environments

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Karen Chapple and Anastasia Loukaitou-Sideris

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To our families, who brought us to California

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1 Introduction

Cities and regions throughout the world are encouraging smarter growth patterns in an attempt to reduce their ecological footprint and greenhouse gas emissions. One strategy frequently utilized is transit: building new systems or expanding existing ones to accommodate mobility and accessibility in a greener, more energy-efficient and sustainable mode of development. Cities also use tools, investment, and incentives to encourage the intensification of land uses around transit stations in order to enable more people to take advantage of transit mobility. Indeed, as we will discuss in chapter 2, transit-oriented development, or TOD, as development near transit is now commonly called, has become in recent decades a dominant strategy for accommodating growth and new development in many cities. But is there an unanticipated side effect—a dark side—to TOD, as new transit stations and associated development are inserted in established neighborhoods, home to long-term residents? Might these transportation investments not only transform neighborhood identity but also reshape the lives of residents—in some cases by forcing the most vulnerable to leave? In this book, we ask, what happens to neighborhoods and residents with the development of transit systems and more compact cities? Who benefits—and who suffers?

Infrastructure and real estate development have of course displaced residents since the time of the earliest cities, but it is alarming to realize that these disruptions continue in the twenty-first century. In particular, urban planners and policymakers in the United States should have learned the lessons from urban renewal, which displaced hundreds of thousands of residents, the vast majority of them communities of color, for new development and highways. The current waves of intervention are rooted, at least in part, in good intentions, to accommodate growth while mitigating climate change. Nonetheless, they also accelerate processes of neighborhood change, sometimes for the better but sometimes not, once again with the negative impacts falling disproportionately on historically disenfranchised and oppressed low-income communities of color.

The push for smarter growth patterns stems not only from our new awareness of climate change but also from changes in consumer preferences and institutional configurations. Compact development tends to have a relatively low carbon footprint because its residents drive less and its buildings are more energy efficient. While the post–World War II decades witnessed strong waves of suburbanization and white flight from central cities, leading to what historian Eric Avila (2006) describes as “chocolate cities and vanilla suburbs,” demographic shifts—both the demand among younger generations for more walkable neighborhoods and the downsizing of empty nesters—are attracting a new generation back to the city, even though new construction has not kept pace. An emerging trend seems to be reversing the sorting of populations by race and class across the metropolitan landscape that took place during the second half of the twentieth century, and slowly but surely, the government is developing supportive regulatory structures: transportation planning that incentivizes development around transit stations, zoning and permitting that make density easier to build and reduce parking requirements, and regional planning mechanisms that ensure that future growth does not sprawl out to the periphery. Furthermore, governmental policies fuel private investment and, in many cases, lead to neighborhood “upscaling.”

But is this a cause for celebration, or instead are governmental actions combined with private market fervor once again failing the most vulnerable residents? If the latter happens, can policies safeguard against a new forced population flight from US central cities by low-income and minority residents who are pushed out of their neighborhoods by the rising rents and land prices generated by the new investments? Indeed, this book is motivated by our fear that awareness of certain negative impacts of smarter growth on communities is lagging implementation on the ground, and protective policies are slow to emerge. In many regions, the same growth coalitions that pushed urban renewal are back, now advocating for infill development (Mollenkopf 1983; Logan and Molotch 1987). Even though some local, regional, and state governments have enacted programs to protect existing residents and/or affordable housing stock, we still understand little about what happens to communities as their neighborhoods transform around them, and mitigation is still rare.

At the same time, the media and academics alike frequently seem eager to reach easy conclusions that gentrification and displacement are "good" or "bad." In this book, we adopt the normative stance that when a household is forced to move from their residence, an injustice has occurred. Yet, for lack of appropriate data and methods, previous work has for the most part rarely been able to identify and measure forced displacement, and has sometimes equated it with gentrification.

In this book, we recognize many different situations under which displacement is likely occurring, not just in gentrifying neighborhoods but also in both disinvested and affluent places; not only in the present but over decades; not only as a result of a singular or episodic intervention but also from the dynamic interplay of several forces, including structural racism; and not only as the movement of low-income residents out of a neighborhood but also as the inability of some individuals to move into a neighborhood, which has been termed "exclusionary displacement" (Marcuse 1986). By making these analytic distinctions, this volume distinguishes itself from the literature that focuses solely on gentrification as a singular phenomenon, the influx of high-income, typically white households; a binary process, whether the neighborhood has gentrified or not; and a binary outcome, that gentrification is either good or bad.

This book also contributes to the literature on smart growth, transit, and regional planning, which to date has largely neglected the topic of existing communities, particularly disadvantaged residents of color. Too often, urbanists have prescribed compact development without evaluating the very real consequences of new, dense construction in terms of raising land prices beyond the means of current residents. Transportation planners and engineers have designed transit systems that cater more to the needs of suburban commuters than to long-term urban residents. In addition, regional planning in most metropolitan areas has only just begun to acknowledge the need to plan not just for the jobs and residents to come but also for the people already in the neighborhoods that planners designate for the new transit infrastructure and TODs.

In this work, we argue that faulty and inadequate research methodologies, as well as insensitivity to context and scale, have prevented a deep understanding of gentrification and displacement, particularly in relation to smart growth. To date, gentrification research has consisted mostly of aggregate econometric analyses that use poor proxies for neighborhood change, analyze a time frame that fails to capture all of the change, and/or fails to examine the role of contextual factors. Single case studies provide richer context but have been largely unsuccessful in extracting generalizable results or interrogating the regional dynamics that shape local outcomes. Lacking appropriate secondary data on displacement, researchers have been unable to describe how many residents or businesses have been displaced and to where. Research methodologies have also been inadequate for determining why some neighborhoods change, not only physically but also socially, while others do not, as a result of smart growth policies. Race and class shape neighborhood change, not so much through the blockbusting practices or redlining policies of the past but rather through more complex dynamics and subtle processes. While good ideas are circulating about how to predict which communities are most vulnerable to negative change, and how to stabilize them, we have very little clarity about what works where and who should do what.

By drawing on novel methodological approaches that combine both quantitative and qualitative methodologies and examine neighborhoods through time, we shed new light on the question of who benefits and who loses from increased compact development around transit. More importantly, we suggest policies to protect communities from the adverse effects of such development. The research for this book not only builds on data at multiple levels—from the household and parcel to the neighborhood, city, and region—but also connects the quantitative analysis with qualitative research. We conducted over 75 interviews in 12 different neighborhoods. To ensure that the research findings correspond to impressions on the ground, we have collaborated closely with dozens of community groups from around the San Francisco and Los Angeles regions. We see our primary unit of analysis as both the neighborhood and the region, since regional dynamics shape every neighborhood's housing market and, at least in the US context, one primary lever for neighborhood change is the transportation spending that is governed at the regional scale.

The Case of California

Since similar neighborhood change processes are playing out around the world, we examine the phenomenon through a global theoretical and historical perspective. However, our empirical work focuses on California.

Because of its size and policy initiatives around sustainability, California presents a large window through which we can see, sometimes in exaggerated form, processes and patterns that also happen or are likely to happen in other regions. The state has long pioneered environmental legislation that then becomes a model adopted elsewhere. Its 2002 tailpipe standards (regulating automobile greenhouse gas emissions) were adopted by 16 states and ultimately by the federal government. Currently, the implementation of the Global Warming Solutions Act of 2006 (Assembly Bill 32) has established the benchmark goal of reducing the state's carbon emissions to below 1990 levels by 2020. By 2050, the reduction target will be 80 percent below 1990 levels. In implementing this standard, the California Air Resources Board has emphasized the primacy of vehicle fuel economy and low-carbon fuel standards, with sustainable land use and transportation planning as a third, smaller element (Barbour and Deakin 2012). It has created the country's first cap-and-trade system,[1] as well as a system of carrots and sticks to reduce greenhouse gas emissions that is motivating actors to change business as usual. Thus, in recent years, California has become a global leader in regional sustainability planning (Chapple 2015).

Helping California take the lead was the 2008 passage of the Sustainable Communities and Climate Protection Act, Senate Bill (SB) 375, which charges regions with developing a long-range (2020 and 2035) plan to guide transportation funding investment, land use, and affordable housing as means for reducing greenhouse gas emissions from automobiles and light trucks. This plan, called the Sustainable Communities Strategy of the Regional Transportation Plan, not only must meet emissions reduction targets but also facilitate sufficient (and affordable) housing to accommodate growth, in compliance with the state's fair share housing (Regional Housing Needs Assessment, or RHNA) process. SB 375 offers two incentives for smarter growth: future transportation investment, and protection for infill projects from lawsuits during the environmental review process. However, it relies on the state's metropolitan planning organizations (MPOs), which have no real power (other than limited transportation funds) to make local governments change their land use patterns.

Where California may be truly exceptional is in its political and institutional preparedness for smart growth and regional planning processes. Support for the integration of environmental, transportation, and land use policies comes both from environmental activists and from business leaders wanting to protect quality of life. For instance, a coalition of environmentalists and developers supported the SB 375 trade-offs between environmental quality (reducing GHG emissions) and development (streamlining environmental reviews for infill development) (Barbour and Deakin 2012). The institutional structure is in place (albeit still weak) not only because MPOs in California seek to influence some long-range state and federal capital investment funds but also because its RHNA process asks that municipalities provide their fair share of housing needed in the region. This, in turn, means incorporating planning for neighborhoods and housing into transportation planning processes.

Nevertheless, and despite the good intentions of planners, California has the dubious distinction of being the least affordable state in the nation when it comes to housing.[2] Rents are skyrocketing in California cities, making over one-third of renters statewide "severely cost-burdened" (Tseng et al. n.d.), worsening an already intense problem of homelessness, and forcing discussions about the need for significantly more affordable housing production, some of it near transit stations.

Indeed, even as the aforementioned Sustainable Communities Strategies are beginning to facilitate higher-density development around transit throughout California regions, most cities and counties are dedicating only a small share of transit revenues to affordable housing (Chapple 2015). Even though California has now reached a crisis in housing affordability, there is little innovation in policy to produce and preserve housing—and mitigate displacement.

The research discussed in the sections that follow stems from an effort by the California state government to acknowledge and understand the relationship between regional sustainability planning and displacement at the neighborhood level. In 2013, the California Air Resources Board (CARB) commissioned us to conduct a study, "Developing a New Methodology for Analyzing Potential Displacement." Over a three-year period, we led a team of researchers from the University of California, Berkeley, and the University of California, Los Angeles, and engaged in a mixed-methods research project to help the state better understand the impacts of new transit stations on surrounding neighborhoods. This study has spurred policy shifts at the local, regional, state, and federal levels, as we discuss in chapter 11 of this book.

California is often seen as an exceptional case because of its early adoption of regulations protecting the environment and the unique challenges associated with its rapid population growth. However, its problems and their symptoms are cropping up in both strong and weak markets around the world. Everywhere, fragmentation of growth management responsibilities between different governments, along with contentious planning processes, make it challenging to build infill development, reduce traffic congestion, and slow outward expansion (a.k.a. "sprawl"). Federal and state budget cuts coupled with taxpayer revolts (such as California's Proposition 13) limit the ability of local governments everywhere to fund basic services and lower housing costs. Inequality is growing across the globe, and along with it a crisis in housing affordability. Housing affordability also is often threatened by well-meaning transportation investments that enhance the accessibility and desirability of neighborhoods and may lead to increased land values and rents and resulting displacement. If policymakers and planners are part of the problem, however, should they also be part of the solution? We hope that this book offers some direction to cities about strategies and policies that may protect the most vulnerable citizens from displacement.

Neighborhoods around the world struggle to accommodate change, as new development disrupts lives and transforms the traditional meanings of places. Thus, we also see the lessons from this book applying not just to growing regions but also to shrinking cities with neighborhoods that continue to experience growth pressures.

Overview of the Book

The book is composed of 11 chapters. Karen Chapple and Anastasia Loukaitou-Sideris are the authors of this book, but contributions to the volume also came from Ariel Bierbaum, Silvia R. González, Karolina Górska, Samuel Maurer, Paul Ong, Chhandara Pech, Joseph Poirier, Paul Waddell, and Miriam Zuk, who were on the research team of the original CARB project. Still, the views in this book are the two authors' alone. The following paragraphs preview the chapters and credit their authors.

This introductory chapter 1, authored by Chapple and Loukaitou-Sideris, lays out the major arguments of the book, explains the choice of California as the case, and previews its findings.

Chapter 2, by Loukaitou-Sideris, examines the emergence and wide adoption by planners of TOD and smart growth incentives and policies. In recent decades, US planners have enthusiastically endorsed the TOD concept as a way of mitigating sprawl and as a strategy for smart growth, but planners' near utopian visions about alternative development patterns supported by a higher-density, pedestrian-friendly, and transit-contingent urban environment have been thwarted by the market-driven urbanism in the United States, as well as community resistance that makes new development challenging. At the same time, a dark side of TODs has emerged, as evidence suggests that they may not only be detrimental to the households that depend on transit the most but also could reinforce deeply embedded land use practices that lead to segregation by income and race.

Chapter 3, by Chapple (with contributions from Bierbaum and Zuk), summarizes and analyzes the research to date on gentrification and displacement, and sets the phenomenon in a global dimension. It shows that processes of upscaling and upgrading unfold in a variety of ways on different continents, unified by one driving factor: the forces of capital accumulation working together with the state. Change processes accelerate with the construction of transit systems, and direct, indirect, and exclusionary displacement may result.

The insertion of transportation infrastructure into a neighborhood is likely to bring about neighborhood change. Chapter 4, by Loukaitou-Sideris, Chapple, and Zuk, reviews the different methodological models that seek to understand and measure the complex phenomenon of neighborhood change and discusses their shortcomings. Based on this review, the chapter suggests a new methodological approach that not only triangulates neighborhood data and neighborhood knowledge to better understand change but also integrates local knowledge into the models, for instance by having neighborhood groups refine typologies of displacement and groundtruth secondary data. It also discusses the need for a longer time frame and deeper context for analysis, a broader regional perspective, and mixed methods that can help clarify decades of confusion. At the same time, it acknowledges the challenges of incorporating the perspectives of those who have left the neighborhood, whether by choice or not.

Chapter 5, by Chapple and Loukaitou-Sideris and drawing on quantitative analysis by Ong, Pech, and Zuk, analyzes a unique dataset that links data at the parcel and block levels to the neighborhood, city, and region. This chapter analyzes the role of rail transit investment in spurring gentrification—and the loss of affordable housing and low-income residents, particularly communities of color in Los Angeles and San Francisco. A comparison of the two cities, beginning with the investment in automobile infrastructure earlier in the twentieth century, suggests how impacts differ across market, demographic, and urban form contexts with different transportation systems. Regression analyses find that gentrification tends to occur in the region's core; that those moving into transit neighborhoods are most likely to be affluent, educated, and white; and that proximity to rail transit is often associated with a loss of affordable rental units. Results differ across the two regions, however, and in neither case can gentrification be attributed only—or even primarily—to new residential development.

Chapter 6, by Chapple and Loukaitou-Sideris (with contributions from Zuk and González), draws from field observations, interviews, and collaborative research with community-based organizations and residents in six neighborhoods in Los Angeles and San Francisco to present local narratives of change and contrasts them with the quantitative picture introduced in chapter 5 and expanded here. Qualitative research leads us to augment the chapter 5 findings with several key observations. First, models that try to predict gentrification or displacement as the outcome of different factors will inevitably fall short, since gentrification is not a binary process but instead a continuum of change over the long term—and one that may be initiated by, rather than culminating in, displacement. Second, intraregional mobility and interconnected regional transit systems mean that neighborhood change does not happen in isolation but instead in a regional context. Third, the deep history of segregation and racism in a community will shape processes of gentrification and displacement. Finally, gentrification takes many different shapes and forms: it may or may not come with new development, transit may or may not play a role, and it may or may not involve cultural transformation in addition to physical upgrading and social upscaling.

Chapter 7, by Loukaitou-Sideris, Chapple, and Poirier (with contributions by González), examines the phenomenon of commercial gentrification in relation to transit investment. The transformation of neighborhood retail, particularly the loss of ethnic or mom-and-pop stores, is typically much more visible than the turnover of neighborhood residents. Nevertheless, to date, the literature has focused more on change in places like SoHo than in working-class neighborhood commercial strips. This chapter examines the characteristics of commercial gentrification and displacement and shows how it is experienced differently in different regions; in the Los Angeles case, it may be preceded by residential gentrification, while in San

Francisco, it seems to spur residential change. Nevertheless, local stakeholders emphasize the relationships between residential and commercial gentrification, suggesting that such relationships change from one neighborhood to another depending on urban form and racial/ethnic context, as well as from one region to another depending on market strength. The analysis also shows that proximity to a transit station is not associated with commercial gentrification, yet the complexities of the relationships suggest the need for further analysis.

In large part because of the lack of appropriate data, little is known about where displaced residents end up. Based on an extensive literature review and census data, chapter 8, by Chapple, examines how often and where low-income households, often residents displaced from their neighborhoods, move within the region. The findings confirm other research that shows that low-income households tend not to move far, because of constraints such as the lack of affordable housing and persistent discrimination—yet low-income households of color move more frequently and farther away than others, in part because of long-standing patterns of segregation. Moreover, transit investment tends to destabilize low-income households, who already experience persistent housing instability.

MPOs and state transportation agencies rely on regional transportation models to determine how and where most of their transportation investment occurs. However, a shortcoming of such models is that they generally fail to take into account the forced mobility and displacement of households, do not address issues of race and ethnicity or housing tenure, and have to rely on aggregate data. Chapter 9, by Waddell and Maurer (with contributions from Loukaitou-Sideris), discusses the technical challenges of analyzing displacement and race in regional models and offers suggestions for their improvement.

A number of metropolitan areas in the United States and around the world are facing a significant housing crisis and a decreasing supply of affordable housing, and transit investment seems to be exacerbating the crisis. Based on interviews with experts and on quantitative analysis of several policies, chapter 10, by Zuk, Loukaitou-Sideris, and Chapple, offers a framework for considering antidisplacement strategies related to transit investment or planning. It also discusses appropriate policies at multiple levels—city, state, and federal—and addresses the effectiveness of online early warning systems in helping communities prevent displacement.

In chapter 11, by Loukaitou-Sideris and Chapple, we conclude that, for the most part, US policies and programs are not well prepared to address transit-induced gentrification and displacement. To meet smart growth goals, we need to commit to development patterns that are more equitable as well.

Transit-Oriented Displacement? It Depends

Does transit investment lead to gentrification or displacement? For better or worse, our research shows that it depends on the context. In some neighborhoods, change is slow and may take generations to appear, if it occurs at all. In others, the proximity to new transit stations has clearly disrupted lives and businesses.

In this book, we show that if we are to understand the impacts of transit investment on a particular neighborhood, we need to change our methodological approach by expanding our notions of time and space. Neighborhood dynamics unfold over several decades, not just one, and respond to particular regional contexts. At the same time, change in the neighborhood happens building by building, block by block, so modeling efforts must build on local knowledge. These factors complicate policy-making, which must be both nimble and sensitive to context.

The California context yielded results that may be quite unique. By and large, the construction of transit systems in the state has not been accompanied by significant new development around most stations, or even new population density—a phenomenon that likely reduces the incidence of both gentrification and displacement. This is a two-edged sword because it also means that the new transit has not (yet) succeeded at generating significant new compact development. The role of race and ethnicity in spurring gentrification or displacement is also less dominant in this diverse state than in other US regions; in California, race and ethnicity often cannot be clearly separated from income, but this may not be the case in other regions.

Neighborhood change touches the lives of all of us and is not only a US phenomenon. Stories about gentrification and displacement appear time and again in the popular press around the world, as readers are fascinated by the visible transformation of a neighborhood, a process that can seem at once catalytic and violent. Thus, we expect that the audience for this volume will include not just built environment practitioners and policymakers but also residents of the many cities internationally that are undergoing these processes of change. To help reach this audience, we post our findings—for Los Angeles, San Francisco, and other cities as available—on interactive maps and downloadable reports on our website, http://www.urbandisplacement.org.

The global crisis of displacement now extends far beyond urban renewal and gentrification. The United Nations recently estimated that there are 65 million refugees globally. Ironically, just as global conflicts are creating a massive emergency, displacing millions of people from their homes and lands, the most affluent state of the most affluent country in the world is unable to provide adequate housing for its residents, generating its own crisis. Instead of using smarter growth patterns as a solution, the pursuit of compact development is often worsening the problem of housing affordability, and we do not even understand the extent of the problem: existing methodologies and data fail to track much of the displacement that is occurring. By addressing some of these methodological shortcomings and discussing policy approaches to protect vulnerable residents, this book seeks to make displacement more visible and policy-making more accountable, thus brightening the dark side of sustainability and transit-oriented development.

2 Transit-Oriented Development as a Panacea for Rationalist Planning: The Bright and Dark Sides

In the last two decades, despite the continued dominance of urban sprawl, a substantial share of development in US cities has taken place near transit stations. The TOD concept—"a moderate to high-density development (either new construction or redevelopment) within an easy walk of a major transit stop, with a mix of residences, employment, and shops" (California Department of Transportation 2011, 43)—emerged as a response to some unpleasant derivatives of the suburbanization that characterized postwar development. Following decades of unfettered suburban development, the urban form of many North American metropolitan areas had become, by the 1980s, a large expanse of low-density suburbs loosely connected to downtown and secondary centers through highways and arterials. Concerns about air pollution, traffic congestion, and urban sprawl dominated the agendas of local planners and public officials. Reacting to the ubiquitous low-density residential development, many urban designers and planners would eventually start coalescing around a new vision for transforming urban form that had its roots in the streetcar suburbs of the late nineteenth and early twentieth centuries (Calthorpe 1993; Rayle 2015).

Indeed, this was not the first time that transit was the impetus for spurring development in US cities. From the late nineteenth century[1] until the 1930s, transit-accessible "streetcar suburbs" were built in almost every major city in the United States (Warner 1962). In an early example of policy mobility around transportation planning, many of the leading transit consultants and streetcar engineers—such as Bion Joseph Arnold and William Barclay Parsons—practiced nationally, facilitating replication of their schemes (Barrett and Rose 1999).[2] They advocated for the placement of stations in locations that maximized access to work, and in turn they helped plan transit neighborhoods that met this criterion. Thus, the construction of about 45,000 miles of streetcar lines (Graebner 2009), radiating out of city centers, enabled development on greenfield sites, and residential and commercial structures soon followed the building of transit infrastructure.

According to Scott Bernstein (2009), streetcar lines did nothing less than help build American cities, as they provided access, and with it the rationale for higher densities. The enhanced property values that these private streetcar lines generated made huge profits for their owners, who frequently also acted as real estate developers. They often bought low-priced land at the periphery of city centers that was guaranteed to increase in value once they laid the streetcar tracks. The increased property taxes from such developments helped cities pave streets, build sidewalks, and install drainage systems (Bernstein 2009).

In 1923, streetcar systems reached their peak of 14.8 billion riders, but they started losing riders thereafter, as the private automobile increasingly claimed the hearts and pockets of many urban dwellers. Streetcar systems became obsolete after World War II, and many cities demolished them in the 1960s, amid increasing automobile use, suburbanization, and highway construction (Polyzoides 2011). Over the following decades, federal policies and funds favored the automobile, and the newly built highways and freeways carried the vast majority of residents to more distant destinations within the sprawling American metropolis. The new transportation infrastructure primarily favored white suburban homeowners, while the dismantling of mass transit left fewer mobility options for residents of America's inner cities, most of whom are people of color (Self 2005; Sides 2003).

Nonetheless, a reinvention of the TOD concept around new railway lines and stations reappeared in the early 1980s in the United States. This emergence paralleled the rise of two other related design and planning movements: New Urbanism and Smart Growth. Populated by a handful of enthusiastic architects and urban designers,[3] in the early 1980s, New Urbanism called for a rethinking of the American suburb and for alternatives to automobile-generated urban sprawl. It favored compact and walkable city settings and lifestyles that would not be dependent solely on cars (Loukaitou-Sideris and Banerjee 1996). While not all New Urbanist proposals centered on transit, the western branch of New Urbanism, spearheaded by architect/planner Peter Calthorpe, advocated for a transit-induced transformation of urban form. In this vision, rail transit stations acted as the hubs

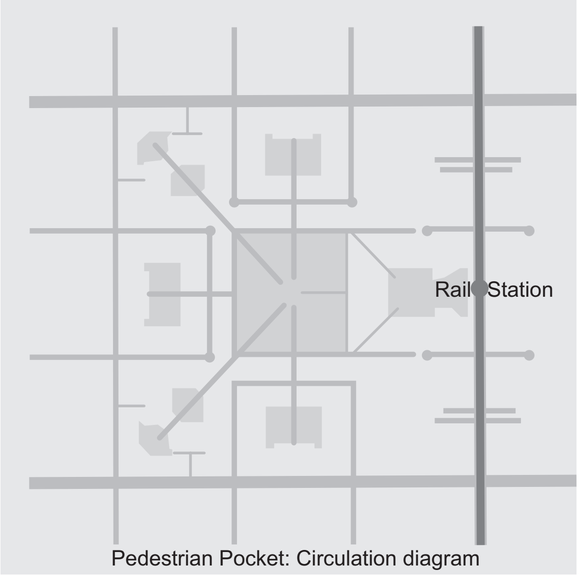


Figure 2.1
Pedestrian pocket. From Fgrammen (own work) [Public domain], via Wikimedia Commons.

around which development—called “pedestrian pockets” (see figure 2.1)—would occur (Kelbaugh 1989; Calthorpe 1993; Katz 1994).

The Smart Growth movement in the 1990s emanated from similar concerns about leapfrog patterns of development, traffic congestion and air pollution in urban centers, inadequate supply of land for urban housing, and loss of agricultural land. An additional concern of smart growth advocates involved the cost of sprawl, estimated to add to municipal budgets about 38 percent more in infrastructural upfront costs (roads, sewers, water lines) than with compact development (Smart Growth America 2013). Thus, they pushed for regulatory and policy tools touted as “smart growth” to achieve urban containment and growth management at the metropolitan scale through infill development, increased density and compact building design at the center, and urban growth boundaries and preservation of farmland and open space reserves at the urban periphery (Inam 2011).

While these three movements have some interrelated goals and aspirations, the defining characteristic of the TOD movement is that it pursues development around a transit station. Indeed, a TOD has two distinctive features that make it a potentially viable tool for urban development: fixed infrastructure and spatially concentrated accessibility that extends a quarter to a half mile around the transit station (Rayle 2015). These same features can also cause conflict, however, since many transit lines are built through low-income communities of color (see chapter 3). Thus, TOD may exacerbate patterns of structural racism, for instance by diverting funding from bus transit that serves minority communities, creating new physical boundaries that reinforce segregation, and of course creating new pressure on land prices in low-income areas.[4]

TOD as a Global Phenomenon

While TOD emerged in the United States as a defined district-level planning platform in the early 1980s, the concept of intensifying land use around transit stations and integrating transport and urban development is hardly only a US phenomenon. Indeed, most of the European, Asian, Australian, and Latin American examples of TOD are the result of state-funded strategic planning initiatives that have sought to reenvision development at the metropolitan scale and achieve a more sustainable and less auto-centered urban form.

The earliest and most celebrated international TOD examples come from Scandinavia. Following World War II, Copenhagen was the first city to envision a transit future. In 1947, the Danish Town Planning Institute issued the “Finger Plan,” which directed future metropolitan growth along existing and planned railway corridors (the “five fingers”), radiating from Copenhagen’s city center.[5] The plan directed metropolitan growth areas around the transit stations along each finger while preserving large swaths of green space between the fingers (Knowles 2012). Stockholm was the second Scandinavian city to use TOD as the cornerstone of its metropolitan development. Its “Planetary Cluster Plan” was developed between 1945 and 1952 and planned for new satellite towns clustered like planets around Stockholm’s downtown, connected to it through an efficient railway network (Cervero 1995). More recently, the Netherlands has also adopted TOD planning that encourages densification around stations along its transit network. Similar to the two Scandinavian examples, the Dutch goals include the development of a polycentric metropolis, the fostering of a regional economy, and enhanced, non-auto-dependent accessibility (van Lierop Maat, and El-Geneidy 2017).

Some East Asian and Southeast Asian cities, including Hong Kong, Tokyo, Seoul, and Singapore, have successfully used the TOD concept to concentrate high-density development around their transit stations. All these cities have initiated strong land use regulations and transport policies that constrain the use of private automobiles in favor of public transport (Bertolini, Curtis, and Renne 2009). Following the Scandinavian precedent, Singapore used TOD planning as a decentralization and balanced growth strategy to relieve congestion from its central city. Its “Constellation Plan,” adopted in 1991, envisioned and eventually built a constellation of new satellite towns on transit corridors radiating out of the central core and separated by greenbelts (Yang and Lew 2009). The Hong Kong model is also one of strong government planning, since all land is government owned and is leased to private developers for 50 years. The government has successfully used value capture[6] in its properties adjacent to transit to finance its railway infrastructure (Knowles 2012). However, as noted by Cervero and Murakami (2009, 2038), while this mechanism ensures funds for the development of transit lines, when applied in this way “it does little to promote affordable housing in an expensive, land-constrained city,” since developers pass on the cost to their tenants.

The TOD concept has also reached Australia, where it is supported by both federal policy (the National Charter of Integrated Land Use and Transport Planning) and state policies. It has been enthusiastically espoused by a number of Australian cities, including Adelaide, Brisbane, Melbourne, Perth, and Sydney. Perth’s regional plan, Network City, was adopted in 2004, with a strong emphasis on counteracting sprawl and concentrating population, jobs, and housing development in activity centers around the stations of the metropolitan transit network (Curtis 2009).

TOD has also been employed in Latin America around stations along Bus Rapid Transit (BRT) systems. The most well-known and celebrated example is in Curitiba, Brazil, where the first BRT in Latin America was developed in the early 1980s. The system had a tremendous impact on inducing what many planners consider a sustainable pattern of development in the city, as it concentrated population growth along high-capacity radial bus transit corridors, accommodating 45 percent of all motorized trips in Curitiba (Deng and Nelson 2011; Santos 2011).

What characterizes all the aforementioned international examples is a strong emphasis on metropolitan, primarily state driven, strategic planning. Such planning utilizes a network approach, focusing on the corridor as a whole and employing strong land use controls and TOD concepts to implement a preconceived vision of the urban form. This vision typically revolves around goals of balanced regional economic growth, relief of population congestion from the central city, preservation of greenbelts, and enhancement of accessibility and sustainability through increased use of transit and reduction of greenhouse gas emissions. Outside the United States, most countries and their cities have coupled this vision with the use of carrots and sticks, providing incentives and tools to encourage implementation.

In what follows, we will see that while similar goals for TOD may have been envisioned by many US academics and planners, the decentralized, market-driven nature of US planning has instead led to opportunistic nodal developments and fragmented station plans rather than network development and regional system planning.

TOD Envisioned in the United States

When the concept of TOD first appeared in the 1980s in the United States, many academics enthusiastically endorsed it as a way to increase transit ridership and mitigate sprawl (Calthorpe 1993; Cervero 1994; Bernick 1996). Paying little attention to the need for government to stimulate the market, they called for the creation of "transit villages," surrounding transit stops with mixed-use commercial areas containing retail shops, offices, and housing. Larger core areas would combine major supermarkets, restaurants, entertainment outlets, and suburban job centers. These academics advocated for a variety of housing types—small-lot single-family homes, townhouses, condominiums, and apartments—that could promote denser neighborhoods than the typical homogeneous suburban settings. They envisioned transit villages with open spaces for community activities and saw streets as settings for social interaction and active community life, not just means for the efficient circulation of cars. They called for wide sidewalks, street trees, and pedestrian-friendly settings. However, there was not much, if any, discussion about housing affordability in this early TOD literature.

The appeal of these ideas and their promise of urban revitalization convinced many city planners, who increasingly started promoting the use of rail transit stations as instruments of development. Planners presented TOD as a "complete package" that included plans, design guidelines for the transit district, zoning regulations to enable higher density, mixed use, and reduced parking requirements (Rayle 2015). However, and in contrast to the international examples presented in the previous section, TOD efforts in the United States remained superlocal and station-specific, and their realization depended on private market forces, often without any public sector incentives at all.

In recent decades, transit-oriented development has enjoyed broad support from different interest groups in the United States because it is loaded with multiple, and sometimes conflicting, expectations. We can group these expectations and their associated TOD objectives into five categories: environmental, transportation, physical, economic, and social (table 2.1).

For environmentalists, TOD presented a promising strategy for metropolitan growth management. Increasing and concentrating density along strategic points in the metropolis, those served by public transit, could reduce the sprawling expansion of the urban footprint in outlying areas and preserve greenfield and agricultural land. At the same time, an increasing share of urban residents—those living in TOD districts—would have easy access to alternative means of transportation and would not need to rely exclusively on their cars for travel. This would help create a more sustainable urban form that conserves energy and reduces greenhouse gas emissions and air pollution in the metropolis (Cervero 1994; Bierbaum, Vincent, and McKoy 2010). This vision was the closest to the one espoused in the international examples detailed earlier, where planners clearly mark and develop transit corridors and direct population growth and development around transit stations while simultaneously protecting open spaces and agricultural land from leapfrog development (Cervero 2009).

While safeguarding against sprawl was the primary goal of US environmentalists, transportation planners expected that TODs would help increase transit ridership. A survey of transit agencies in 2004, funded by the Transit Cooperative Research Program (TCRP), found that this was the top goal listed by most agencies (figure 2.2). As a multibillion-dollar public investment, the construction of railway infrastructure is an expensive enterprise. At the same time, over the last 50 years, public transit in the United States saw its share of ridership decline dramatically in comparison to automobile ridership (figure 2.3). Nevertheless, in the 1980s and 1990s,

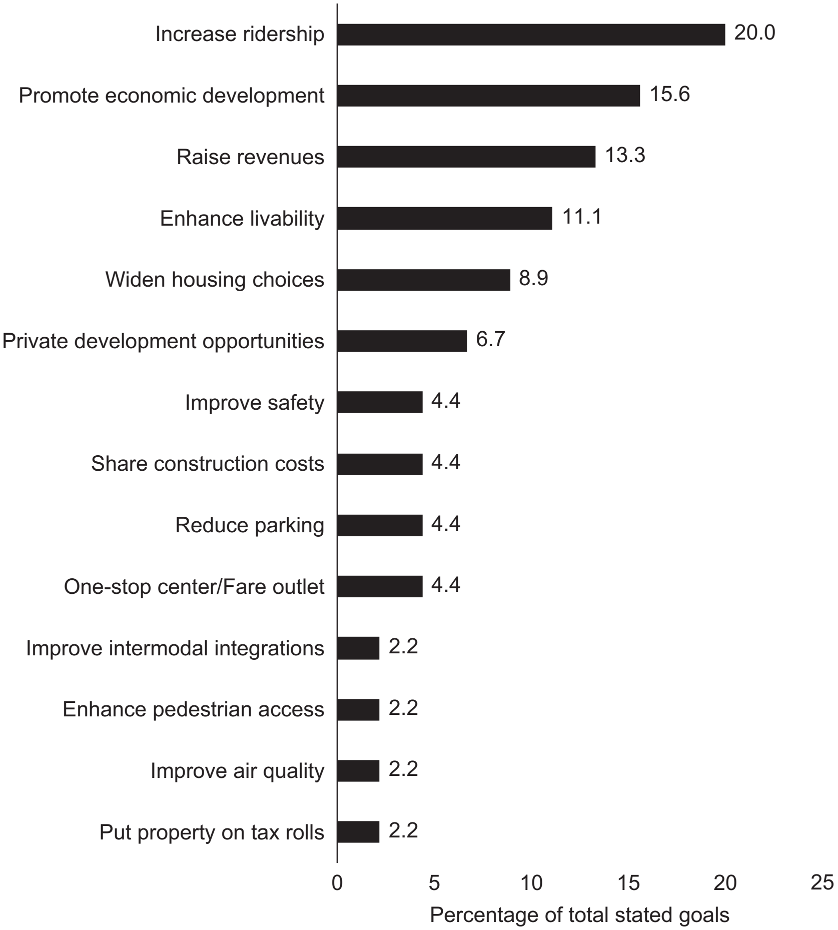


Figure 2.2
Frequency of stated transit agency goals for TODs.
Source: Adapted from Transit Cooperative Research Program (2004), figure 1.1, p. 10.

a multitude of cities around the country built hundreds of miles of light rail transit (LRT). By focusing growth around rail stops, transportation planners in the United States hoped to capitalize on these expensive public transit investments, boost transit ridership, and enhance transportation affordability for households. They believed that residents living near stations would be much more likely than other metropolitan residents to utilize transit (Transit Cooperative Research Program 2004), and they expected the positive side effects of increased transit ridership: reduced traffic congestion,

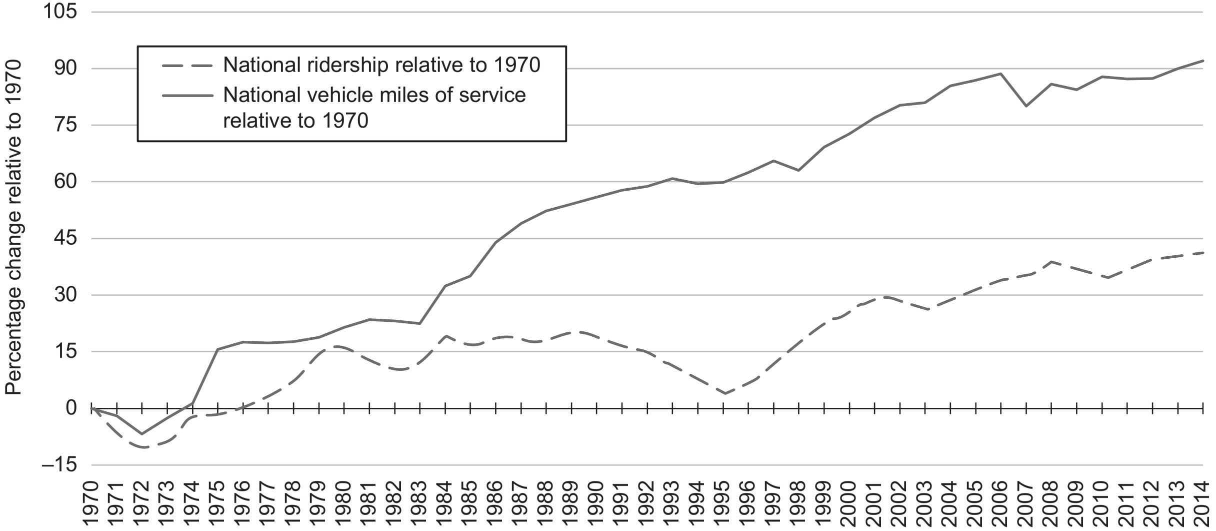


Figure 2.3

Percentage change in transit ridership and vehicle miles of service relative to 1970.

Source: Adapted from American Public Transit Association (2015), Appendix A, historical tables 2 and 8. https://www.planetizen.com/node/85595/public-transportation -ridership-three-steps-forward-two-steps-back.

reduced transportation costs for TOD households, and higher fare revenues for transit agencies.

Municipal planners saw in TODs the opportunity for creating a more compact urban form through infill development. Some even hoped that the new investment in TODs would help revitalize obsolete inner-city areas. As argued by Bernick and Cervero (1997, 9–10): “The transit village offers a fresh new approach to stimulating economic growth in inner-city neighborhoods served by rail.… Combining transit village planning with aggressive programs to improve the social and physical infrastructure of neighborhoods can provide a formula for positive change.”

Some housing and community advocates in the United States emphasized social objectives for TODs. They hoped that increased density would also mean increased housing affordability, more housing options for underprivileged households, and the development of inclusive, mixed-income communities in TOD neighborhoods (Bierbaum, Vincent, and McKoy 2010; Chapple, Hickey, and Rao 2007; Center for Transit-Oriented Development 2009b), as well as increased mobility and transportation affordability for transportation-disadvantaged groups and carless households (Cervero 1994). Although most of these arguments mentioned the potential for TODs to promote racial diversity, they lacked a deep analysis of structural inequities—a point that returned to haunt progressives, as community groups later lined up to oppose TOD as unjust (see chapter 11). Of course, developers also counted on the economic benefits, increased property values, higher rents, and lucrative leases that could be realized thanks to the combination of planning incentives and market demand for TODs.

Table 2.1 summarizes the various aspirations of different groups in regard to TODs. It is clear from this laundry list of expectations that TODs were imagined as nothing less than a panacea for some of the ills that plagued many urban settings, but some of these TOD objectives were not aligned with each other (Atkinson-Palombo and Kuby 2011).

TOD Realized

The planners’ enthusiasm notwithstanding, actual implementation of smart growth initiatives and TOD projects was at first quite slow to take off in the United States. Developers and funding institutions worried about the viability and marketability of such projects in a nation married to cars and

Table 2.1
TOD stakeholders and their aspirations

Environmentalists	Transit agencies	Local governments	Housing and community advocates	Developers
Reduction of sprawl Preservation of greenfield and agricultural land Energy conservation Reduction of greenhouse gas emissions/ Cleaner air	Increase in transit ridership Auto use reduction Reduced traffic congestion Reduced household transportation costs Increased transit fare revenues Joint development opportunities	Compact urban form Infill development Inner-city revitalization Reduced traffic congestion	Housing affordability More housing options Mixed-income neighborhoods Increased mobility for low-income households Increased transportation affordability	Increased property values and rents Increased opportunities for profit

single-family homes, but in the twenty-first century, the concept of TOD has moved from academic debates to implementation, and "TOD as an ideal has dominated planning practice in cities with transit" (Rayle 2015, 534). Around the country, housing developers, who up to that time had built primarily single-family suburban subdivisions, increasingly started to develop higher-density urban housing and mixed-use infill projects, many near transit stations. They found fertile ground for their projects, as many cities renewed their interest in building transit infrastructure. Within one decade, from 1988 to 1998, US cities and regions built 175 new fixed-guideway transit lines and had another $250 billion in additional planned transit investment (Belzer and Poticha 2009).

While many US cities espoused the TOD concept, California cities were particularly enthusiastic participants in the TOD fervor. Through the 1980s, California had seen its real estate development concentrated in freeway-oriented suburbs and exurbs, even though the state had undertaken considerable investment in rail systems (Cervero 1994). In the early 1990s, however, the city of San Diego and Sacramento County employed New

Urbanist guru Peter Cathorpe to develop much-touted design guidelines for TOD areas (Calthorpe and Associates 1990, 1992). The most automobile-oriented county in the nation, Los Angeles County, decided to re-create a metropolitan mass transit network, which had been abolished when the Los Angeles Big Red Cars stopped operating completely in 1961 (see chapter 5). In 1990, the first Metro line (the Blue Line LRT) started operation, and that same year, the city of Los Angeles formulated guiding principles for station-area development (City of Los Angeles 1993). TOD became a major component of Los Angeles's long-term growth strategy, as the city's General Plan[7] in the 1990s directed 75 percent of all new development onto 5 percent of its land, mostly around rail stations and bus stops (Chu and Curtiss 1995). Since then, Los Angeles has made TOD the focal point of its new Specific Plans.[8] In 1994, the California legislature enacted a transit village bill to promote TOD planning. In 2006, California voters approved Proposition 1C, which included $300 million for a TOD infrastructure implementation program as well as making loans available for mixed-use, housing, and commercial developments within a quarter mile of a transit station.

However, the presumption of transit-induced development—deeply rooted in many planners' visions of sustainability and ideal community form—was not devoid of challenges. Goals for balanced and sustainable metropolitan development require more than planning for specific station areas. As the examples of successful international TOD planning have shown, they require a strategic approach that plans for the transit network holistically, rather than station-by-station, and ensures implementation through strong land use controls, incentives, and in some cases state ownership of properties adjacent to transit. In contrast, the decentralized, market-driven nature of US planning lacked the authority and tools to undertake systemwide land development, especially in cases where transit systems traversed the borders of different municipalities.

Additionally, most US transit agencies did not own land adjacent to transit. The high cost of urban land and the difficulty of assembling parcels for infill development around transit stations proved to be important economic hurdles for TOD (Atkinson-Palombo and Kuby 2011). As the case of the Blue Line in Los Angeles demonstrated, even in low-income neighborhoods of the inner city, the anticipation of new transit station construction could invite land speculation and skyrocketing land costs, thus discouraging affordable transit-oriented development (Loukaitou-Sideris and Banerjee 1996, 2000). Such high land costs often negate the vision of TOD that includes a mix of land uses and incomes (Center for Transit-Oriented Development 2009a).

Even the dream of a walkable urban form was not always realized, as market realities often prevented the inclusion of pedestrian-oriented neighborhood retail in station areas. Many small businesses, such as bakeries, coffee shops, and flower shops, cannot afford the high rents in newly established TOD districts. At the same time, municipal desires for tax revenue have often encouraged commercial uses in TODs that are not necessarily pedestrian- or transit-friendly (Loukaitou-Sideris 2007).

The goal of increased transit ridership also encountered bumps as high property values and rents and lack of reduction in parking minimums[9] or establishment of parking maximums[10] in some TOD areas mean that residential units are more likely to be occupied by affluent tenants with multiple cars than by transit-dependent households. This is problematic for transit agencies, planners, and public officials, who wish to boost transit ridership. Additionally, the introduction of high-density development in a neighborhood without a simultaneous change from driving to walking, biking, or taking transit will likely increase traffic congestion in the immediate area, a concern raised by opponents of TOD projects. Thus, a tension arises between the increase in local traffic and regional reductions in vehicle-miles traveled (Loukaitou-Sideris 2007).

Additional challenges to TOD development appeared because of the complicated nature of urban infill projects that involve coordinating and balancing the needs of different stakeholders. NIMBY (not in my backyard) opposition to high-density TODs and the time and resources necessary for holding multiple community meetings to counteract neighborhood opposition raise TOD development costs (Hess and Lombardi 2004).

Lastly, attending to the technical details of building mixed-use projects very near transit can result in higher upfront costs for infrastructure and building materials (Center for Transit-Oriented Development 2009a). The New Urbanist dream of a highly compact and walkable “transit village” is difficult and expensive to materialize along many existing corridors, which are built around the automobile (Cervero and Kockelman 1997), with existing buildings set back from the street and surface parking lots interrupting building facades.

The different factors contributing to the high cost of TODs are summarized as follows (Center for Transit-Oriented Development 2009a, 8):

- Expenses associated with changing zoning and building codes to allow higher-density, mixed-use buildings.
- Cost of community engagement, particularly in regions where moderate and high-density development did not exist prior to the proposed TOD.
- High land price expectations by property owners who see the long-term value of TOD.
- Brownfield remediation expenses.
- Coordination with the transit agency to locate and construct transit facilities, such as stations, parking, or bus transfers.
- Provision of new streets, parks, and other place-making amenities that create identity.
- Higher construction costs for dense building types.
- Provision of excess parking spaces in high-cost structures.
- Local requirements for community benefits with limited cost offsets for developers.

As we will see in the next section, these high costs are partly responsible for the sociodemographic composition of many TODs. As stated in a 2009 report by the Center for Transit-Oriented Development, “low- and moderate-income households have not been well provided for by the market, except in places with functioning inclusionary housing programs, very proactive housing agencies or savvy integration of land entitlements, developer agreements and public agency partnerships” (Center for Transit-Oriented Development 2009a, 8).

TOD Popularity

Despite the hurdles that TOD has encountered in the United States, however, market-driven development around transit has gradually materialized in recent decades. The current popularity of TODs stems from the favorable municipal policies that have encouraged TOD investments, as well as the changing demographic and lifestyle trends that have increased market demand for TODs. Such changes were not lost on developers, who eagerly started pursuing higher-density development around transit.

Favorable municipal planning policies have played a significant role in the growth of TODs, as public funding has often favored transit infrastructure over other forms of investment in cities. This is because, as Rayle (2015, 534) explains: "Transit-focused plans generally have more potential to garner broad support than similar redevelopment plans lacking a transit element." Additionally, municipalities have typically found it easier to attract federal funding for transportation projects than for other redevelopment projects (Altschuler and Luberoff 2003). Such funding can leverage and supplement local funding sources.[11]

It comes as no surprise, then, that planners and policymakers in many municipalities quickly developed an enabling policy environment that promoted TODs, passing favorable bills and ordinances and designating TOD overlay zones[12] around specific stations with special density bonuses, reduced parking requirements, and other land assemblage and zoning privileges (Cervero, Bernick, and Gilbert 1994). In the 1990s and the decade that followed, TOD projects mushroomed around many transit stations in the United States (Transit Cooperative Research Program 2002, 2004), boosted by supportive policies, station-area master plans, and public-private partnerships.[13] In a 2002 report that examined TOD development in Los Angeles County and was sponsored by the National Association of Realtors and the Urban Land Institute, Cervero and Duncan (2002b, 7) found that municipal public policy had played a very significant role in TOD development. They noted that "most large-scale mixed-use projects mushrooming around transit nodes have been leveraged, and more bluntly, 'subsidized,' through redevelopment assistance. Many of the County's transit nodes enjoy a privileged status, beneficiaries of tax credits, tax-increment financed neighborhood improvements, pre-assembled land, and other perquisites." While many TOD plans followed the construction of transit lines, some cities (e.g., Phoenix, Arizona, and Pasadena, California) enacted TOD overlay zoning in anticipation of the coming of light rail transit (Atkinson-Palombo and Kuby 2011).

Changing demographic and lifestyle trends have also favored the growth of TODs in the United States. The early twenty-first century has witnessed a back-to-the-city movement by a segment of the public, as some millennials, empty nesters, and retirees increasingly favor the convenience of central city neighborhoods over suburban locations, and the proximity to transit and urban amenities (Center for Transit-Oriented Development

2009a). National surveys have shown that compact development is particularly appealing to two groups: younger, college-educated adults and lower-income individuals (Belden Russonello Strategists 2013). Rapid increases in these population groups have worked in favor of transit-oriented development in urban settings.

Market demand for living near transit in more compact, high-density residential units is also triggered by increasing traffic congestion in large metropolitan centers (New York, Boston, San Francisco, Los Angeles, San Diego, Atlanta, etc.) and skyrocketing housing prices that make the large suburban single-family home unaffordable and less appealing for an ever-increasing segment of the public (Nelson 2011). It comes as no surprise, then, that a 2008 report by the Center for Transit-Oriented Development, commissioned by the Federal Transit Administration, estimated that demand for housing near transit would double to 14.6 million households by 2030 (Thorne-Lyman et al. 2008).

The favorable policy environment coupled with the increasing market demand for TODs has changed the mindset of developers (Loukaitou-Sideris 2007). In the 1980s and early 1990s, most developers were reluctant to develop TODs because they perceived them as expensive to build and appealing only to a narrow market segment: singles, young professionals, and empty nesters. This has changed, however. A study of TOD development along the Metro Gold Line in Los Angeles in 2010, which included interviews with developers and architects of TODs, indicated their general eagerness for building around transit stations (Loukaitou-Sideris 2010). Talking about the tenants of two TOD buildings he had designed along the Metro Gold Line in Los Angeles—the Mission Meridian and Archstone in South Pasadena and Pasadena, respectively—New Urbanist architect Stefanos Polyzoides said: “We got people in their 20s, 30s, 40s, 50s, 60s, and 70s. There are six families with kids there.… I think because the buildings are so complex and diverse they end up attracting multiple markets, which is both a marketing advantage and a social advantage” (in Loukaitou-Sideris 2010).

Indeed, both the regulatory policy environment and the market have worked hand-in-hand to promote TODs as nodal developments around selected transit stations.

TOD Residents

Who lives in transit neighborhoods? A 2006 national study found that residents of "transit zones," in the United States defined as a half-mile radius around new and old transit stations, were more diverse in terms of race and income than residents in nontransit zones (Center for Transit-Oriented Development 2006). Transit stations often follow the path of least resistance, ending up in low-income communities of color, some disenfranchised by decades of segregation and disinvestment. However, research on the income characteristics of TOD neighborhoods is quite inconclusive and may differ from one metropolitan area to another. Thus, in the early years of the new millennium, Renne (2005) found that households in TODs had higher than average incomes in Chicago, Atlanta, Miami, Washington, D.C., and Dallas, and lower than average incomes in San Francisco and Los Angeles. Distinguishing between urban and suburban areas, however, Gossen (2005) observed that in urban neighborhoods TOD residents in the San Francisco Bay Area had higher incomes than non-TOD residents. However, residents of suburban areas averaged higher incomes than TOD residents did. In a more recent study, Barton and Gibbons (2015) examined how the concentration of subway stops and bus stops predicted variation in median household income in New York City during the first decade of the twenty-first century, finding that the concentration of subway stops predicted higher-income residents.

A 2009 study that analyzed the location of federally subsidized housing in 20 metropolitan areas found that about 200,000 affordable apartments were located within a quarter mile of a transit station but that more than two-thirds of the federal subsidies that kept these apartments affordable would expire within the next five years (Harrell, Brooks, and Nedwick 2009). Commenting on this finding, Belzer and Poticha (2009, 9) reasoned that, "Given that property values near transit are highly desirable and have held their value compared to properties further from transit in the current housing foreclosure crisis, there is a real potential the owners of what are currently Section 8 units will opt out of the federal program, particularly since the program has been poorly run and underfunded over the last eight years. This loophole presents a significant threat to what is now and will be a very needed source of low-cost housing."

Additionally, researchers have noted that, whereas some earlier TODs incorporated new affordable apartments for transit-dependent and lower-income households, built by nonprofits with significant support from the public sector, most recent TODs provide housing only for higher-end residents, who can afford the higher development costs typically associated with TODs (Grady and LeRoy 2006). Thus, scholars increasingly are raising concerns that the TOD plans that many cities around the country are zealously drafting may have negative consequences for low-income groups by increasing land and housing costs and leading to gentrification and displacement (Wardrip 2011). In the following sections, we will review the literature to explore this topic further by examining the TOD impact on land development and property values.

TOD Real Estate Impacts

Land Development

Population densities and development have typically increased around new transit stations in different parts of the world, especially when such development has been strategically planned and supported by public investments and incentives. As already mentioned, Copenhagen's "Finger Plan," Stockholm's "Planetary Cluster Plan," Singapore's "Constellation Plan," and Perth's "Network City" plan have concentrated population and development around new transit stations (Cervero 2009; Curtis 2009; Yang and Lew 2009; Knowles 2012).

In the United States, however, studies in the 1980s and 1990s inquiring about the land use impact of new transit systems did not find significant development around new railway stations. More specifically, a study on the land use impacts of the Bay Area Rapid Transit (BART), a few years after it opened in 1973, found only moderate effects around its stations (Dyett et al. 1979). Repeating the inquiry in an updated study 20 years after BART's opening, Cervero and Landis (1997) found observable land use impacts around the downtown San Francisco and downtown Oakland stations and around a small number of other suburban stations, but only modest impacts around the remaining stations. Similarly, a study of the Blue Line in Los Angeles, which connects downtown Los Angeles to downtown Long Beach, passing through inner-city neighborhoods, found that it had generated some development around its downtown stops but little or no development around its inner-city stations (Loukaitou-Sideris and Banerjee 2000). Similarly, TODs were largely absent around trolley stops in San Diego County in the 1990s, with the exception of the city of La Mesa, where planners had aggressively pursued them (Boarnet and Compin 1999).

Scholars examining the general inability of transit lines to generate significant development around US transit stations in the 1990s indicated a number of reasons, including the existence of economic challenges, such as high land costs for purchasing and assembling land in urban settings, lack of developable land around many stations, neighborhood opposition to higher-density projects, and weak real estate markets (Transit Cooperative Research Program 1996, 1997; Cervero and Landis 1997). Others also observed that transit's impact on urban development may take years or even decades to materialize (Boarnet and Compin 1999; Cervero and Landis 1997). Far from being a "we will build it, they will come" proposition, TOD required preplanning, supportive zoning policies and development incentives from the public sector, and healthy local economies (Loukaitou-Sideris and Banerjee 2000; Transit Cooperative Research Program 2004).

These lessons were not lost on planners in some cities. For example, the city of Denver, Colorado, deliberately made TOD the keystone of its regional land use and transit development planning, resulting in about 18,000 residential dwelling units, 5.3 million square feet of retail space, 5.4 million square feet of office space, and 6.2 million square feet of medical space within a half mile of existing or planned transit stations from 1997 to 2010 (Ratner and Goetz 2013). Similarly, the city of Portland has developed one of the most intensive TOD programs in the United States. Its *Region 2040 Growth Plan* concentrates the highest densities in the city in "station communities" within a half-mile of transit stations. The plan has instituted TOD overlay zones, where parking requirements are reduced and floor area ratios (FAR) are increased.[14] The city has aggressively pursued public-private partnerships that have resulted in significant TOD development around stations (Dong 2016). In the San Francisco Bay Area, the Metropolitan Transportation Commission (MTC) started the Transit for Livable Communities (TLC) program in 1997. TLC (now defunct) provided planning and capital grants of over $250 million for local transportation projects in downtowns, corridors, transit areas, and other activity centers, if they included higher-density housing and mixed-use development around transit stations (Center for Transit-Oriented Development, Community Design + Architecture, and Nelson Nygaard 2014). Through MTC's Station Area Planning program, over 50 projects have been funded, which include station area planning, funding for Environmental Impact Reports (EIRs)[15] of plans, and in certain circumstances gap financing. The City of Los Angeles Planning Department has made TOD the focal point of its planning, creating new Station Neighborhood Area Plans (SNAPs) as a means of guiding development near existing or new transit stations. Los Angeles's planners have also incorporated transit sections into planning documents, including community plans and specific plans.

It therefore comes as no surprise that more recent studies find more significant land use development effects of transit in station areas than earlier studies did (Rayle 2015). A 2011 study by the Center for Transit-Oriented Development found very significant new development around transit stops in Denver's Southeast Corridor, on Charlotte's Blue Line, and on Minneapolis-St. Paul's Hiawatha Line (Center for Transit-Oriented Development 2011). A recent report funded by the Transit Cooperative Research Program (TCRP) estimated that neighborhoods that experience the opening of new transit stations would witness, on average, a 9 percent increase in their activity density (combined population and employment density) (Gallivan et al. 2015, 3). In some cities, this increased development around transit stations can be attributed to increased transit ridership and worsening traffic congestion, which make housing near rail transit more desirable (Dong 2016). In other cities, such as Los Angeles, where rail transit ridership has declined in recent years, the continuing interest in TODs also results from supportive planning policies and development incentives and from the development community's greater familiarity with the TOD concept (Loukaitou-Sideris 2010). In general, smart growth plans and policies around transit in California have benefited from relaxed zoning regulations and public investment, resulting in greater housing production, but also sometimes lower densities, as a result of the type of housing built (Chatman et al. 2016).

Nevertheless, and with few exceptions (the city of Portland being one), the impacts of population growth and real estate development around TODs in US cities pale compared to the aforementioned international examples, and not all US cities have witnessed significant development effects because of the introduction of new transit lines. For example, in Minneapolis, no relationship was observed between the proximity of light rail transit (LRT) and development (or redevelopment) of vacant parcels, leading to the observation that "improved access due to public transit may not be a sufficient short-run catalyst for accelerated development of vacant land in targeted urban areas" (Hurst and West 2014, 70). As has been noted, "By and large, the TOD phenomenon of the last decade occurred in strong market regions with either existing legacy transit systems or where new transit lines were built. Regions with vulnerable or weak economies (or portions of regions that had weak markets) did not see tremendous TOD activity" (Belzer and Poticha 2009).

Land and Property Values

Transit increases accessibility and lowers a household's transportation costs, so, in theory, properties around a transit station should enjoy increased development potential and increased land values compared to similar properties that are not proximate to a station. Many empirical studies have examined this proposition, and a robust body of literature, even reviews on this topic, exist (Parsons Brinckerhoff 2001; Transit Cooperative Research Program 2004; Bartholomew and Ewing 2011).

While the studies discussed here focus primarily on the US context, studies from other countries largely confirm the existence of a price premium experienced by properties near transit stations. A review of 150 European studies found that the presence of transit stations generally has a positive impact on the prices of residential and commercial properties nearby (Royal Institution of Chartered Surveyors 2002). A separate review of 86 transit systems around the world found that all had significantly positive premiums on land values near station areas (Ingvardson and Nielsen 2017). Similarly, premiums were encountered in Seoul, Korea, near subway stations (Bae, Jun, and Park 2003) and BRT stations (Cervero and Kang 2011), Hong Kong (Tang et al. 2004), and Beijing (Ma, Ye, and Titheridge 2014), as well as near the stations of the TransMilenio BRT in Bogotá, Colombia (Rodríguez and Mojica 2009).

By and large, studies from different parts of the world confirm the presence of a price premium on properties near transit stations; they also show that this premium can range considerably (from miniscule amounts to over 45 percent more than comparable properties with no transit proximity), and may even become negative because of certain factors (Transit Cooperative Research Program 2004). Such mitigating factors include the type of rail system (commuter, heavy, or light rail) and its extent, connectivity and reliability, the property characteristics (land use, distance from the station), the station neighborhood characteristics, and the strength of the local real estate market and local economy. We elaborate on these factors in the sections that follow.

Rail system characteristics Most studies that have examined variations in price premiums among properties served by different types of rail systems find that properties around stations served by commuter and heavy rail usually demand higher price premiums than properties around light rail systems, everything else being equal. Analyzing data from 57 other studies, Debrezion, Pels, and Rietvield (2007) found greater premiums for stations served by commuter rail than for those served by heavy or light rail.

In an earlier study of stations in downtown San Jose, an area that is served by both commuter and light rail, Cervero and Duncan (2002c) found that properties within a quarter mile of a downtown station served by the regional commuter rail system experienced a $25 per square foot premium, while properties within a quarter mile of a light rail station in downtown experienced only a $4 per square foot premium. However, while commercial properties near commuter rail stations in Santa Clara County demanded higher premiums than those near light rail stations, land occupied by apartments near light rail stations in the same area had a premium of 45 percent, compared to land occupied by apartments near commuter rail, which had a premium of 20 percent (Cervero and Duncan 2002a).

Some authors have suggested that, in addition to the type of rail, other system factors, such as the extent, connectivity, and frequency of the transit system, may influence the price premium that properties near stations experience (Bartholomew and Ewing 2011; Wardrip 2011). As an example, a study found that TOD residential properties in close proximity to stations with direct access to New York City had higher valuations than other TOD properties near stations that did not have such access (Kay, Nolan, and DiPetrillo 2014).

Station neighborhood characteristics A number of studies find that sociodemographic, locational, and physical characteristics of the station's neighborhood may influence property valuations and price premiums of TODs. In general, stronger positive effects appear in higher-income neighborhoods (Dong 2016). For example, residential properties near MARTA rapid transit stations in Atlanta, which are located in high-income neighborhoods, experienced higher increases in value than properties near stations in lower-income neighborhoods (Bowes and Ihlanfeldt 2001). Similarly, properties around light rail stations in Buffalo, New York, witnessed a modest premium (2–5 percent), with higher effects observed in the wealthier station neighborhoods (Hess and Almeida 2007).

Studies have shown that the location of the station neighborhood in relation to the central business district or other employment and activity centers influences price premiums. The closer the station neighborhood is to these centers, the larger the premium (Bartholomew and Ewing 2011). Additionally, certain physical characteristics of transit neighborhoods, such as walkability, smaller blocks and connected streets, and open space may increase the premium for residential properties (Bartholomew and Ewing 2011). For example, examining condominiums in San Diego, Duncan (2011a, 101) found that "station proximity has a significantly stronger impact when coupled with a pedestrian-oriented environment. Conversely, station area condominiums in more auto-oriented environments may sell at a discount." While amenities in TOD neighborhoods can enhance property valuation, "disamenities" such as noise, crime, and proximity to highways or industrial facilities may limit or even reverse increases in property values because of transit proximity (Diaz 1999; Bartholomew and Ewing 2011).

Property characteristics A number of studies have examined how property characteristics affect the premium a property receives after the opening of a station. Researchers have examined different types of TOD housing (single-family, apartment housing, condominiums), finding that, in general, valuations are higher in multifamily TODs than in single-family ones. This was found in empirical studies in San Diego (Duncan 2008), Los Angeles (Zhong and Li 2016), and Charlotte, North Carolina (Billings 2011), among other places,[16] and possibly implies that buyers of apartments and condominiums may value access to transit more than buyers of single-family homes do (Bartholomew and Ewing 2011).

Fewer studies have examined the premiums enjoyed by commercial TODs. A Transit Cooperative Research Program (2004) report that reviewed a number of studies found variations in commercial property premiums ranging from 8 percent at Denver's 16th Street mall station to 40 percent at Dallas's Mockingbird rail station. Cervero and Duncan (2002a) observed that commercial parcels near light rail transit stations in Santa Clara County enjoyed a 23 percent premium, but this premium jumped to 120 percent for commercial parcels in a business district within a quarter mile of a commuter rail station.

Another property characteristic that seems to influence a property's valuation is its distance from the station. In general, researchers find that premiums occur at short distances from the station (Debrezion, Pels, and Rietvield 2007). However, some scholars have also discovered a "disamenity zone," where properties very near a station may witness a decline in valuation because of noise, traffic congestion, or potential crime effects (Bowes and Ihlanfeldt 2001; Armstrong and Rodriguez 2006). This disamenity effect appears to be a particular concern only for commuter and freight rail, not for light rail.

Planning policies Another factor that may influence TOD property values is the specific planning policies and zoning regulations of local governments. Supportive TOD overlay zoning ordinances with zoning bonuses and other incentives for mixed-use, higher-density development can bolster property values of residential or commercial TODs (Transit Cooperative Research Program 2004). Examining the combined effect of transit proximity and permissive zoning regulation (regulation that permits higher densities and mixing of land uses) on home prices in San Diego, Duncan (2011b, 2140) found that "the premium value associated with rail proximity was conditional upon permissive zoning regulation."

Thus, the findings in the literature suggest that a transit station tends to have a positive effect on property prices in its vicinity, but this effect is not automatic: its existence and extent depend on a number of mediating factors, which were discussed earlier and are summarized in table 2.2. One gap in the price effects literature is that it exclusively concentrates on land and property values around stations and does not discuss the impact on rents. Until recently, few studies have addressed the timing of value increases, which may begin to occur when the transit investment is announced (Cao and Lou 2017). Appreciation in property values may, however, be a sign of gentrification, which can negatively affect those without an ownership stake. We turn to these issues in chapter 3.

Table 2.2
Factors modifying property premiums

Factor	Type	Property premium	References
Rail system	Commuter rail Heavy rail Light rail Trolley	↑	Debrezion, Pels, and Rietvield (2007); Cervero and Duncan (2002b, 2002c)
Rail service	Extent Connectivity Frequency	↑	Wardrip (2001); Bartholomew and Ewing (2011); Kay, Nolan, and DiPetrillo (2014)
Station neighborhood	Sociodemographics Household income Physical characteristic Walkability Amenities (e.g., open space)	↑ ↑	Bowes and Ihlanfeldt (2001); Bartholomew and Ewing (2011); Hess and Alameda (2007); Duncan (2011a, 2011b); Diaz (1999)
	Disamenities (crime, noise, etc.)	↓	
	Distance from CBD	↑	
Property	Land Use Single-family Multifamily Commercial	Mixed ↓ ↑	Duncan (2008); Billings (2011); Bartholomew and Ewing (2011); Zhong and Li (2016); Bowes and Ihlanfeldt (2001); Armstrong and Rodriguez (2006); Debrezion, Pels, and Rietvield (2007)
	Distance from station <500 ft.	↓	
	500 ft.–0.25 mile	↑	
	>0.25 mile	↓	
Planning	Pro-TOD policies TOD overlay zone Zoning bonuses Development incentives	↑	Transit Cooperative Research Program (2004); Duncan (2011b)

Conclusion

After transforming many US cities at the turn of the twentieth century, development around transit reappeared in the 1980s. Planners conceived and rationally designed TODs to counteract the sprawling suburban landscapes of the postwar American metropolis and promote more sustainable urban forms. By concentrating higher densities near transit stations and encouraging a walkable, more compact urban form near transit, planners hoped to reduce automobile dependency, increase transit ridership, ensure cleaner air, and provide more housing for urban and suburban residents. This early utopian vision of TODs seemed to promise something for everyone through the creation of a socially amicable, mixed-income neighborhood that is convenient and attractive to residents, workers, shoppers, and visitors.

However, this vision has been tested by the political and economic realities of a market-driven urbanism in the United States, where planning is decentralized and too weak to accomplish a restructuring of metropolitan form and largely lacks significant policies to safeguard housing affordability. While some international TOD examples have arguably promoted sustainability by containing development around preselected transit nodes, protecting greenbelts and open spaces, and encouraging greener means of transport, this has been more the exception than the rule in the United States. At the same time, a dark side of TODs has emerged. While TOD projects have exponentially increased across the country, the possibility arises that because such projects contribute to increases in land and property values, they may be more susceptible to gentrification and displacement and thus detrimental to the households that depend on transit the most. We will discuss this further in chapter 3.

3 Gentrification and Displacement as Global Phenomena

The very mention of the terms gentrification and displacement yields iconic images: rows of working-class homes or brownstones, freshly touched up; a hipster café or art gallery taking the place of the neighborhood corner store; perhaps a young professional couple moving in and an older, low-income resident moving out. From the vantage point of this book, we of course would add a streetcar. But does this image apply to global contexts from Europe, Asia, and Latin America? A theory of neighborhood change should apply broadly to urbanized areas, at least those that are experiencing growth pressures. Local contexts may shape the specifics of the demand side (who is moving in and why) as well as the supply side (the multiplicity of actors, from private capital to the state, driving the physical change). But fundamentally, the gentrifying type of neighborhood change always entails upgrading of the built environment and a transformation that might be called "upscaling" of the population, whether subsequent or prior to the physical improvement.

This chapter examines how processes of gentrification and displacement have unfolded around the world, particularly in relation to new transit systems. Like many before us, we define gentrification as urban transformation via flows of both capital and people (Freeman 2006; Lees, Slater, and Wyly 2008). We see this neighborhood change as the spatial manifestation of the restructuring of capital accumulation in a process of uneven development. Specifically, the change is part of a cycle in which the devaluation of capital in established areas yields diminished profits and accumulation processes begin to shift into other neighborhoods. In the gentrification process, capital seeks out disinvested neighborhoods, where there is the greatest "rent gap," namely the difference between potential and actual ground rent (Smith 1979b). Population shifts into the neighborhood occur as well, whether because of demographic factors that increase demand for urban residences, economic restructuring that creates white-collar jobs in the city center, and/or the mainstreaming of an urban aesthetic pioneered first by artists and alternative households (Zukin 1982a; Ley 1996; Hamnett 2003).

Displacement occurs when forces outside people's control force them to move from their residence (Grier and Grier 1978). Because these forces may stem from either disinvestment or investment, displacement is not necessarily directly induced by gentrification. (In fact, as chapter 10 discusses further, with the right policies in place, it is not necessarily an outcome of gentrification.) Along the lines of Marcuse (1986), we see displacement as both direct and indirect, and not just physical (occurring as landlords evict tenants or neglect properties so that they become uninhabitable) or economic (caused by increasing rents) but also exclusionary, taking place when a household is not permitted to move into a neighborhood based on conditions that are beyond its control. Displacement is much harder to detect than gentrification is.

Displacement is also a process with deep roots in the United States, as well as other countries that have experienced colonial aggression, and subsequently land theft and exclusion, against indigenous and/or minority populations (Hern 2016; Markusen and Bedoya 2016). In many places, displacement is a racialized process, meaning that it is one of "the set of practices, cultural norms, and institutional arrangements that are both reflective of and simultaneously help to create and maintain racialized outcomes in society" (powell 2008, 785). In the US case, displacements of Native American and African American populations from the seventeenth century on set the stage for continued expropriation of land by the real estate industry, working in concert with government (Markusen and Bedoya 2016).

Since sociologist Ruth Glass coined the term "gentrification" in 1964, global urbanization has undergone several new chapters. The world's global cities, and even secondary cities, have added population at a rapid pace by both densifying at the core and expanding at the periphery. This has led to the prevalence of "new-build" gentrification, or new development that changes the character of a place. To some, this form of development, whether built on greenfields in the periphery or brownfields in the core, amounts to gentrification (Lees, Shin, and López-Morales 2016a). In this book, in contrast, we examine how new transit systems that are built as a form of smart growth in *existing* neighborhoods may lead to gentrification.

Thus, we are instead interested primarily in infill development—on vacant or underutilized parcels surrounded by existing neighborhoods, whether in a city or a suburb.

Another change in recent decades has been in how theorists perceive the role of the state. Missing from many of the early accounts of gentrification, primarily in London and New York, is a depiction of the state as a leading or even active player in the gentrification process (see, for instance, Auger 1979; Hamnett and Williams 1980; Smith and Williams 1986). As more accounts of gentrification surface, however, particularly from the Global South, the narrative has shifted to focus on state-led gentrification (Lees, Shin, and López-Morales 2016a).

Finally, we should note that gentrification and displacement today are taking place in the context of a nearly global increase in inequality (Credit Suisse Research Institute 2015). In contrast, the earliest theorizing about gentrification took place as the postwar era of prosperity was being replaced by economic restructuring and the rise of the "new economy," fueled by the service and information sectors. Early scholars of gentrification and displacement were cognizant of the impacts of these economic shifts; for instance, Damaris Rose (1984) identified the degradation of labor processes as being at the root of gentrification. "Nonnuclear" households, such as female service workers with children, employed in multiple low-wage jobs, may need to reside in gentrifying areas near the urban core. In such cases, gentrification is not so much a lifestyle preference as a coping strategy for those living complex lives under advanced capitalism. Thirty-five years later, income inequality has grown even more extreme, and the continued rise of contingent labor makes job accessibility even more important.

The following section briefly examines how urban theorists from around the world are defining gentrification and displacement, and then looks at theory and evidence about the role of public investment, specifically transit, in gentrification and displacement. By looking at viewpoints across time and space, we gain perspective on the epistemological and methodological challenges researchers have faced. The accounts add up to a clear diagnosis: throughout the world, transit has spurred gentrification and/or displacement. Yet, it is far from clear that outcomes are uniform, inevitable, or predetermined.

Perspectives on Gentrification and Displacement across Time and Space

The image of gentrification as the renovation of a row of working-class brownstones, evoked in the first paragraph of this chapter, stems from a particular place and time: London in the 1960s. The components of this image—working-class residents, built-up neighborhoods near the city center, older and deteriorated housing stock, and renovation—deeply influenced gentrification scholarship in subsequent decades. Translated to the United States context, gentrification gained a racial connotation as well, as white newcomers would often uproot long-term African American or other ethnic communities. Over time, the dimensions of gentrification have become almost cartoonish, with stereotypes of actors and neighborhoods, while the reality of change is much more complex, nuanced, and context-specific.

One of the legacies of the Anglo-American perspective is a particular approach toward understanding neighborhoods and neighborhood change. Planners in the United States and United Kingdom typically define a neighborhood as a group of blocks that are homogeneous in physical characteristics and possess clear boundaries; administrative agencies such as the census or local planning departments adopt these definitions to determine boundaries for data collection or service delivery (Perry 1929; Lynch 1961; Coulton 2012). However, these definitions may not conform to people's experiences of a neighborhood on the ground, which can then lead to inappropriate policy prescriptions (Coulton 2012). In the specific case of gentrification, the misspecification may lie in the sheer size of the census tract (or super output area in the United Kingdom), which typically holds about 4,000 people in dozens of blocks, a scale that exceeds not only individual perceptions of neighborhood identity but also the dynamics of change, which may be localized to just a few blocks. Whereas researchers in the United States and United Kingdom tend to compare dynamics across neighborhoods, accounts from other places tend to use other units of analysis, for instance analyzing the impact of a single new development or transportation corridor, or evaluating change in an entire district rather than just within a neighborhood.

Likewise, the approach to understanding neighborhood change stems from a unique "moment" in time, the early twentieth century, when US cities were changing rapidly because of rapid industrialization, immigrant influx, and the Great Migration of African Americans from the rural south.

Theorists of the “Chicago School” posited an ecological model of the city’s neighborhoods, in which newcomers would invade an area and succeed the original residents, in a process of neighborhood decline (Burgess 1925; Park 1925, 1936; Wirth 1938). This model thus naturalized the idea of decline or neighborhood “descent,” framing neighborhood “ascent” or upgrading as an aberration (Zuk et al. 2015). Decline itself, however, may stem from external factors rather than from internal migration dynamics. For instance, the regional economy shapes local poverty levels, and federal policy may drive local decline (Smith 1979a; Jargowsky 1997; Goetz 2013). Rather than inevitably succumbing to churn and change, neighborhoods can be surprisingly stable (Wei and Knox 2014). Moreover, in much of the rest of the world, slum upgrading is commonplace—suggesting that there are alternative approaches to conceptualizing change (Lees, Shin, and López-Morales 2016a). One such alternative framing is “downward raiding,” in which opportunistic middle-class residents seek out slum areas, particularly those being formalized, purchasing subsidized housing from poor households and thus creating new market pressures (Lemanski 2014; Choi 2016).

The Anglo-American approach to understanding gentrification is also connected to historical patterns of residential segregation, as it was often the same segregated neighborhoods that experienced neglect and white flight in the 1950s through the 1970s that later experienced subsequent revitalization (powell and Spencer 2002). Policy historically has shaped the structure of opportunity and risk across metropolitan areas for different racial groups, creating the segregated and disinvested communities that then become ripe for gentrification (powell and Spencer 2002; Freeman 2006; Wilson and Taub 2006; Pattillo 2008). One factor behind the influx of whites moving into segregated areas seems to be a taste for cultural offerings, such as ethnic restaurants and shops (Zukin 1987; Loukaitou-Sideris 2002; Hackworth and Rekers 2005). More recently, segregation has shaped gentrification by attracting African Americans to move into historically black neighborhoods in order to avoid housing discrimination (Freeman 2006). Thus, the transition may not be uniformly from black to white (Ellen and O’Regan 2011), and segregation may actually slow the pace of gentrification (Hwang and Sampson 2014). While race remains important, other social categories (such as sexual orientation and ethnicity) are emerging alongside it, complicating community tensions (Hyra 2017). In any case, this conception of gentrification as intrinsically linked to segregation is largely missing from discussions in the rest of the world, with the exception of South Africa (Donaldson 2006). Where issues of ethnicity are discussed, they are usually framed as cultural heritage. For instance, cities in Spain and Latin America have produced cultural spaces that exoticize local identities, considered a form of symbolic gentrification (e.g., Casgrain and Janoschka 2013; Janoschka, Sequera, and Salinas 2014).

From the beginning, the Anglo-American literature has emphasized the role of private capital in driving gentrification but has conceptualized the state as being complicit with other actors such as banks and developers rather than leading the process (Smith 1979b; Logan and Molotch 1987). Government at the local, state, and federal levels sets the conditions for gentrification processes through public subsidies and policies but is responding to capital or, according to some, to consumer demand for a gritty, authentically "urban" experience (Smith 1979b; Ley 1996; Zukin 1982b). This conception of the government's role was heavily influenced by the experience of urban renewal and redevelopment in American cities, which during the 1960s and 1970s bulldozed urban blocks for new commercial and residential development, in the process destroying communities and catalyzing neighborhood transformation (Frieden and Sagalyn 1989).

By the 1990s, however, the US narrative had shifted away from urban renewal, partly because of the demise of the program. This was not true of the rest of the world: urban regeneration was just picking up in other countries, from the revitalization of historic urban centers in Turkey (İslam 2009), to historic preservation strategies in Buenos Aires (Rodríguez and Di Virgilio 2016), a back-to-the-city movement in Santiago (López-Morales 2016), and large-scale urban renewal throughout China (Zhang and Fang 2004). Other accounts emphasize pro-gentrification policies in different parts of the world, undertaken either by entrepreneurial cities or municipal governments seeking to impose social control in the Netherlands (Uitermark, Duyvendak, and Kleinhans 2007), Barcelona (Casellas and Pallares-Barbera 2009), and Rome (Annunziata 2014). Another variant is occurring in postsocialist countries, where unique public-private partnerships are transforming underinvested areas in Moscow (Badyina and Golubchikov 2005) and Prague (Cook 2010). As Lees, Shin, and López-Morales (2016a) argue, building on the work of Brenner and Theodore (2002, 349), these many different manifestations of gentrification reflect "actually existing neoliberalism," or the developmental politics of government retrenchment and privatization in different contexts.

Although the link to neighborhood decline initially suggested that gentrification only occurs in lower-income, inner-city neighborhoods (Hamnett 1991; Lees 2000; Lees, Slater, and Wyly 2008), subsequent Anglo-American accounts identified gentrification in suburban or even rural areas (Phillips 2004; Heley 2010; Hines 2010; Oberg and Nelson 2010). Research from other parts of the world also suggests that this broader geographical lens is appropriate. For instance, metropolitan expansion generates different forms of gentrification in many Latin American, Asian, and African countries, often related to transit or infrastructure investment, for instance in the Philippines (Choi 2016), Lagos (Ezema, Opoko, and Oluwatayo 2016), Chile (López-Morales 2016), Bangkok (Moore 2015), and Seoul (Shin 2009). Stiglich (2012) and Strauch, Takano, and Hordijk (2015) discuss the Línea Amarilla's impact on low-income but central neighborhoods in Peru, and Talocci and Boano (2015) discuss the influence of the Cambodian National Railway. Rural gentrification also often occurs with highway or port expansion into remote areas, such as the Lamu port in Kenya (Nunow 2012) and the Quito airport in Ecuador (Carrión 2016).

Defining Gentrification

As mentioned earlier, gentrification is a particular kind of revitalization, targeting small areas or neighborhoods, and characterized by both an influx of new investment and an inflow of new people, typically of higher educational and income levels than the original residents. Gentrification differs from simple neighborhood ascent in its beneficiaries, who are primarily outsiders and homeowners rather than incumbent renters (Clay 1979; Owens 2012).

Gentrification is a process that unfolds over time, whether rapidly or slowly, yet the quantitative analyses that have dominated much of the Anglo-American conversation approach it as a binary outcome, examining whether a place has gentrified at one moment in time. As discussed further in chapter 4, this approach to understanding gentrification is largely data driven, constrained by the types (socioeconomic, property) and coverage (census tract, city) of the data available. Nonetheless, it has resulted in a relative consensus about how to define and operationalize gentrification, which may have influenced the framing of qualitative research as well.

Most gentrification research in the United States and United Kingdom thus follows a standard approach (see, for instance, Laska, Seaman, and

McSeveney 1982; Galster and Peacock 1986; Melchert and Naroff 1987; Atkinson 2000; Vigdor 2002; Freeman 2005; McKinnish, Walsh, and White 2010; Ellen and O'Regan 2011; Maciag 2015; Landis 2016). Neighborhoods—nearly always defined by census tracts—are determined to be "eligible" for gentrification based on the socioeconomic status of their residents (typically indicated by their low income). In some cases, disinvestment in property is also a criterion for eligibility, and some scholars restrict eligibility to a central city location. Whether a tract is gentrified is determined by increases in the median income and educational attainment of neighborhood residents; most scholars also include increases in the percentage of white residents. Only some of the analyses add proxies for investment, such as property sales, to their criteria for gentrification. Most research then proceeds to analyze the causes of gentrification, testing a set of independent variables measuring location, socioeconomic characteristics, and housing characteristics. Notably, most studies fail to look at the role of public investment in gentrification, apart from the location of nearby amenities such as parks (Zuk et al. 2017).

Thus, the US conception of gentrification is generally quite narrow, focusing on the newcomers *upscaling* the neighborhood's socioeconomic context rather than the investment *upgrading* its built environment. According to this narrative, gentrifiers make location decisions independent of the macroeconomic and social context—an account that makes invisible the intertwined forces of capitalism, inequality, and racism also at work (Schlichtman, Patch, and Hill 2017). This focus on flows of people rather than capital has made it particularly difficult to connect displacement specifically to gentrification, as we discuss further.

Outside of the United States and United Kingdom, other conceptions have emerged to challenge this definition of gentrification, expanding the orthodox approach in terms of geography, new development, and the role of the state. For instance, by expanding the idea of gentrification to include downward raiding, accounts on different continents are shifting the focus from the central city to peripheral slums (Shin 2009; Lemanski 2014; Choi 2016). As Lemanski (2014) explains, the "raiders" are not the "gentry" we saw in London 50 years ago: they have lower income and educational attainment and are seeking to occupy slum areas on the periphery that were built by households with very low incomes rather than properties that trickled down in a process of neighborhood decline.

Most definitions of gentrification around the world also incorporate the idea of new-build gentrification (Davidson and Lees 2005). New build dominates the discourse about gentrification in Asian and Middle Eastern cities but can also be found in discussions about cities such as Paris (Pattaroni, Kaufmann, and Thomas 2012; Rizzo 2014; Moore 2015). The new development here is typically apartment buildings of medium to high density, inhabited by the middle class, and built initially in what Wyly and Hammel (2001) term "second wave gentrification," driven by global economic and cultural processes (Bounds and Morris 2006).[1]

Perhaps because gentrification includes this idea of new development, accounts from outside the United States tend to be more explicit about the public sector's role in spurring gentrification. Some focus on the public-private partnerships that navigate the complexities of property redevelopment in infill areas, emphasizing the driving role of private capital, such as in Spain and the Netherlands (van Boxmeer and van Beckhoven 2005), Prague (Cook 2010), and Sydney (Bounds and Morris 2006). Others argue that these are not true partnerships but rather state-led processes, in which government involvement signals to the market that it is safe to proceed, such as in Shanghai (He 2007), Cape Town (Visser and Kotze 2008), and Lagos (Ezema, Opoko, and Oluwatayo 2016). As part of this state-led gentrification, entrepreneurial cities—from Rome, Moscow, and Barcelona to Lima and Cape Town—are connecting to global capital flows and restructuring processes via the financialization of housing markets and/or pro-gentrification urban policies (Badyina and Golubchikov 2005; Visser and Kotze 2008; Casellas and Pallares-Barbera 2009; Sampat 2010; Stiglich 2012; Annunziata 2014; Strauch, Takano, and Hordijk 2015). Alternatively, the state may be using gentrification not to strengthen its tax base but rather to reduce neighborly tensions and create social order in diverse low-income neighborhoods (as Uitermark, Duyvendak, and Kleinhans 2007 argue in the case of the Netherlands). In some cases, such as Turkey, the renewal process closely resembles 1950s-era urban renewal in the United States, but with the government spurring the market to replace low-quality housing with buildings intended for the same residents (İslam 2009; Özdemirli 2014). In other cases, however, such as China, it is driven instead by state decentralization processes, with newly empowered local elites stimulating individual consumption and property rights directly (Zhang and Fang 2004; He 2007). As will be discussed further, the state plays an even more explicit role in the development of transportation systems. The government not only constructs the transportation project but also speculates extensively in land in order to generate profit from new-build gentrification around the system, as Goldman (2010) notes in reference to Bangalore. In the case of the Global East, this is a story not just of the neoliberalizing state but also of a deliberate process of intervention in the built environment for the purpose of reinforcing the developmental state (Shin, Lees, and López-Morales 2016). Taken together, these cases make visible the role—often violent—of the state in property regimes where private property is not the dominant form of tenure, raising the question of whether the application of the term "gentrification" is even appropriate (Ghertner 2015).

Thus, assessing gentrification globally highlights the role of private capital and the state in a way that the dominant US-UK literature neglects. The global gentrification literature expands gentrification to a wide variety of contexts, actors, and processes, in general deemphasizing the role of individual consumption and focusing on both neighborhood upscaling and upgrading (López-Morales 2016; Rodríguez and Di Virgilio 2016). It also draws attention to the potential of global comparative methods—as Robinson (2016, 649) neatly puts it, "ways to think with elsewhere"—which, in the case of gentrification, might mean building new contextualized theories about the role of the regulatory process rather than looking for repeated instances of the rent gap around the globe. At its best, the global gentrification literature will not merely "provincialize" urban theory by supporting peripheral perspectives but will highlight the marginal positionality of postcolonial cities in relation to advanced industrial countries, subjecting both the core and periphery to critical scrutiny (Leitner and Sheppard 2016).

Defining Displacement

We define residential displacement as a situation in which incumbent residents have fewer options within, are forced out of, or cannot move into neighborhoods. Displacement may also be nonphysical, such as a sense of loss of place and belonging, erosion of cultural cohesion, loss of community supports, and/or diminution of political power. As Davidson (2009, 228) notes, "People can be displaced—unable to (re)construct place—without spatial dislocation."

Early discussions of displacement in the US context resulted from a set of interventions in urban areas in the mid-twentieth century; in particular, the federal urban renewal program and interstate highway construction uprooted low-income communities, many with residents of color. The violence of these state-led displacements spurred protests, study, and reform—yet also created a narrative about urban change that has proven difficult to dispel (Fried 1963; Fullilove 2004; Gans 1982; Freeman 2006). In this context, the legacy of urban renewal has been inherited—accurately or not—by the gentrifiers, whether the original "pioneers" upscaling the city, or the more recent movers into it, who have rediscovered urban downtowns as desirable places to live (Clay 1979; Birch 2005).

Writing at a time when researchers were examining displacement driven by urban renewal, Grier and Grier (1978, 8) proposed the following definition: "Displacement occurs when any household is forced to move from its residence by conditions which affect the dwelling or immediate surroundings, and which: 1) are beyond the household's reasonable ability to control or prevent; 2) occur despite the household's having met all previously-imposed conditions of occupancy; and 3) make continued occupancy by that household impossible, hazardous or unaffordable."

This definition raises questions about resident choice. Is a resident "forced" to move when a dwelling becomes uninhabitable because of landlord neglect? Perhaps the move is not legally mandated, but such landlord actions leave residents with few alternatives. Likewise, an increase in rent does not necessarily force out a resident, who can choose to allocate more of the household budget toward rent. At the same time, some moves that seem voluntary may actually be responding to outside forces, whether violence in the neighborhood or increasing rents where residents lack alternatives (Newman and Owen 1982; Desmond and Shollenberger 2015). Historic patterns of segregation and social isolation, as well as community trauma—long-term exposure to violence and oppression—can also shape the perception of alternatives (Fullilove 2004; Pinderhughes, Davis, and Williams 2015; Desmond 2016). It is thus clear that there are multiple causes for displacement, including both physical (e.g., water is turned off, evictions, rehabilitation) and economic reasons (e.g., rising rent) (Marcuse 1986), and displacement is a broad phenomenon that is not confined to gentrifying neighborhoods (Desmond and Shollenberger 2015).

As we discuss further in chapter 4, displacement may occur before, during, or after gentrification. Grier and Grier (1978) distinguish between displacement related to disinvestment and reinvestment—which may be related to each other. As property deteriorates, tenants are displaced, thereby making way for reinvestment in a neighborhood (because of the new rent gap), which then leads to more displacement. Marcuse (1986) reconceptualized this as the "chain of displacement," arguing that research that focuses only on "last resident displacement" underestimates the magnitude of the problem.

Displacement may also stem from housing market failure, for instance when insufficient new housing is produced to meet demand (Grier and Grier 1978). In this case, the cause is not simply profit seeking by landlords, or shifts in consumer tastes, but unmet demand, which creates competition between newcomers and existing residents for housing. A related phenomenon is "exclusionary displacement," or a situation where a household is not permitted to move into a neighborhood based on conditions that are beyond their control (e.g., price increases) (Marcuse 1986). Whether markets have failed, pushing affluent newcomers into lower-income areas, or other forms of upgrading are occurring, the neighborhood changes as the profile of newcomers shifts.

Recent literature from around the world has generally focused on direct displacement caused by new-build gentrification, termed "development-induced displacement" (Edington 2015). This emergent displacement narrative closely resembles the critical writings on urban renewal in the United States beginning in the 1960s. In Asia and Africa in particular, the focus is primarily on direct displacement and the "violence of urbanization" impacts, namely the urban transformation induced by megaprojects (Pedrazzini, Vincent-Geslin, and Thorer 2014, 394). For example, in Cambodia and the Philippines, railway projects and related development have resulted in residents' forced eviction and relocation to the periphery, far from their jobs in the center (Edington 2015; Talocci and Boano 2015; Choi 2016). Disruption of livelihoods is also a feature of urban renewal in Addis Ababa, where residents have been relocated from the core to peripheral settlements (Yntiso 2008). For many cities (most notably Rio de Janeiro), direct displacement has also resulted from megaevents such as the Olympic Games and soccer's World Cup (Gaffney 2015; Lees, Shin, and López-Morales 2016b).

Nevertheless, an increasing number of accounts have also begun to note the chains of indirect or exclusionary displacement that can result from new-build gentrification (Davidson and Lees 2005; Winkler 2009; Lemanski 2014; Ezema, Opoko, and Oluwatayo 2016). In Latin America, the framing is now not just on how elites are capitalizing on the rent gap but also how this is leading to exclusionary displacement "e.g. cases where the private capture of ground rent has a class-monopoly nature" (López-Morales, Shin, and Lees 2016, 1101). Lemanski's (2014) account of downward raiding in South Africa points out that displacement and exclusion are occurring simultaneously. Winkler (2009) talks about the many different ways displacement takes place in Johannesburg, where residents in informal jobs concentrate in the inner-city core. This has led to new local planning policies that relocate undesirable populations to the periphery via tenant evictions, utility disconnections, and general insensitivity toward the poor. In Buenos Aires, we see a variety of urban renewal policies, from historic preservation to economic restructuring, that result in forced evictions, market-based evictions, arson, and public works-based displacement (Rodríguez and Di Virgilio 2016).

Researchers from sociology and geography—from the 1970s in the United States to the global literature today—often equate gentrification with displacement, without interrogating the relationship further. Economists and urban planners have weighed in with a different perspective, however, shifting the focus to the question of whether gentrification necessarily leads to displacement—a debate that has now lasted over 30 years.

Research has generally confirmed that exclusionary displacement is occurring in gentrifying neighborhoods: newcomers are typically wealthier, whiter, and of higher educational attainment, and those leaving are more likely to be renters, poorer, and people of color (Atkinson 2000; Freeman and Braconi 2004; Freeman 2005; McKinnish, Walsh, and White 2010; Ellen and O'Regan 2011; Ding, Hwang, and Divringi 2016).[2] Yet, gentrification per se—as typically defined—does not predict displacement. As discussed further in chapter 4, poor renters are no more likely than other residents to move from gentrifying areas and may even be more likely than higher-income residents to stay. This contradicts the perspectives of those writing outside the United States, who disparage these findings as opportunistic and naive (Lee, Shin, and López-Morales 2016a, 9).

Methodological shortcomings are partly responsible for these contradictions, as discussed further in chapter 4 (Newman and Wyly 2006; Zuk et al.

2017), but the most critical difference lies in how narrowly some researchers define gentrification and displacement. Gentrification in the United States tends to be primarily about upscaling (i.e., socioeconomic ascent) rather than upgrading (i.e., private and public investment in neighborhood housing and amenities). New-build gentrification, which is quite prominent globally, is entirely missing from these models, and public investment such as transit is rarely mentioned. The time frame of most inquiries is often so limited as to miss the gradual transformations over decades or the role of long-term structural inequalities in guiding neighborhood change. At the same time, displacement is typically addressed as the specific event of moving out, not acknowledging various types of long-term displacement pressures, such as landlord harassment, uncertainty associated with the planning of new public infrastructure, and more generally restructuring to further capital accumulation (Sims 2016).

The arguments for expanding notions of gentrification to incorporate global perspectives are compelling (Lees, Shin, and López-Morales 2016b). Yet, as this review suggests, there are stark differences between how researchers in the United States and United Kingdom conceptualize and understand gentrification and displacement compared to their counterparts in the rest of the world. There are also some basic areas of agreement. Regardless of specific geographic location, gentrification occurs in places with affordable housing stock and often results in physical renovation of deteriorated housing and infrastructure, as well as new construction. Regardless of their motivations, newcomers are catalyzed by and yield improvements in the physical environment—both from individual activity and from state-sponsored investments in housing and other infrastructure (Davidson and Lees 2005; Bridge, Butler, and Lees 2012). There is one more element in common: throughout the world, researchers have largely failed to address the role of transit investment in gentrification and displacement.

Public Investment in Transit: The Missing Story

Public investment can play a powerful role in spurring neighborhood transformation. However, it is surprisingly invisible in many accounts of gentrification, apart from its role in urban renewal or new-build gentrification. The government makes capital improvements in physical infrastructure, from rail transit and highways, to water and sewer facilities, to schools, parks, and other community facilities. In turn, upgrades can change the bundle of amenities associated with a neighborhood and result in higher property values—and transformation of the population. The following section focuses specifically on the impact of different transit interventions on surrounding neighborhoods.

Rail Transit and Residential Gentrification

As discussed in chapter 2, most of the earlier literature cast property value appreciation around transit stations in a positive light—as one more reason for policymakers to encourage TODs. Conspicuously absent was a discussion of related demographic change or housing affordability. More recent work, however, has interrogated the validity of the long-standing concern of community activists that development around transit induces gentrification and displacement. The implicit and expressed fear of advocates and low-income communities is that the higher property values and rents will inevitably push out disadvantaged residents living near transit stations, forcing a move to more segregated areas just as the neighborhood is becoming diverse (Deka 2016). Rail stations differ from other redevelopment projects because they exist in a dynamic relationship with the rest of the region. Writing specifically about rail megaprojects, Peters (2009, 4) notes that they "are both major real estate projects and public infrastructure projects at the same time, with a potential to significantly affect and restructure mobility patterns in the wider metro area."

What accentuates such concerns is the vulnerability of transit neighborhoods, since research has found that in general in the United States, they have above-average rates of minority (African American and Latino) and low-income households, who are renters (Center for Transit-Oriented Development 2006; Pollack, Bluestone, and Billingham 2010). Evidence from Phoenix shows that station areas with higher poverty levels have been designated as TOD overlay zones in higher ratios than wealthier transit neighborhoods, with parcels zoned for single-family housing (Atkinson-Palombo and Kuby 2011). Transit agencies often locate stations in these neighborhoods because of the relatively low cost of land acquisition, along with the lack of organized local resistance (Self 2005; Healy 2016). Thus, in addition to the vulnerability of poor transit neighborhoods to gentrification because of the mechanisms of the private housing market, some also voice concerns that transit agencies and local governments have incentive to encourage transit-induced gentrification because it may ultimately lead to higher-income TOD residents and higher property taxes (Rayle 2015).

Most researchers investigating the phenomenon of transit-induced gentrification find that it does occur, but with variations among metropolitan areas. Evidence of residential gentrification comes from the change in population demographics toward higher-income, more educated, and at times more white households, as well as increases in housing prices and rents. Such trends have largely been observed in TOD neighborhoods around the world. However, as we will discuss in the next section, findings about displacement are mixed and inconclusive.

In an analysis of two Swiss cities, Rérat and Lees (2011) looked specifically at the residents of new developments near transit and found that they are willing to pay more for the proximity and connectivity in their new neighborhoods. The construction of the subway in Istanbul's Beyoglu neighborhood led to the return of middle- and upper-income groups, as distance to mass transit was the most significant variable predicting land price increases (Dokmeci, Altunbas, and Yazgi 2007). Likewise, writing about the Johannesburg-Pretoria rapid rail corridor, Donaldson (2006) suggests that new development has tended to attract potential train passengers, perpetuating segregation and exclusion in a "corridor city." Although he does not specify what this means in terms of displacement, he does mention, ironically, a fear that local land prices will go down, possibly leading to a tendency to minimize concern about displacement. Also writing about South Africa, Bickford (2016) is concerned about the lack of affordability in TOD neighborhoods, which may thwart the South African goal of the integrated city. In Wu's (2012) discussion of Beijing, gentrification spurred by new rail transit is seen as a "new urbanist" process of regeneration, but without any consideration of displacement. Writing about Addis Ababa, Pedrazzini, Vincent-Geslin, and Thorer (2014) suggest that the new light rail transit (LRT) is reconfiguring the metropolitan area around the transportation network. In Seoul, the new subway had an impact on residential prices only before the line opened, indicating an anticipatory effect (Bae, Jun, and Park 2003). In Bangalore, despite the high cost of new-build TOD housing, older neighborhoods nearby have not yet experienced gentrification (Chava 2016).

In the United States, studies of fixed-rail impacts on neighborhood change tend to pinpoint shifts in residential population and housing characteristics. In a study of 12 metropolitan areas with fixed-guideway transit built between 1990 and 2000, Pollack, Bluestone, and Billingham (2010) found on average that increases in median household income, housing prices, and rents in transit neighborhoods were more rapid than in nontransit neighborhoods. The researchers also point out that new, more affluent residents often possess cars and are thus less likely to be regular users of transit. Examining 14 US cities before and after the introduction of new transit stations, Kahn (2007) found that census tracts within one mile of walk-and-ride stations (a characteristic of TODs) were more likely to attract new residents with a college education than were nontransit tracts or tracts in park-and-ride transit stations. He also found significant variations in transit-induced residential gentrification among the metropolitan areas studied, with Washington, D.C., and Boston showing clear signs of gentrification, while Los Angeles and Portland did not. Variations were also encountered in a recent Canadian study that found that proximity to a transit station increased the likelihood of gentrification in Toronto and Montreal but not in Vancouver (Grube-Cavers and Patterson 2015). Similarly, a study of LRT impacts on gentrification (measured as only upscaling, not upgrading) across 14 urbanized areas found divergence in impacts (e.g., positive in San Francisco but negative in Portland) (Baker and Lee 2017). Also focusing only on changes in median household income, Barton and Gibbons (2015) showed that proximity to New York City subway stops was a significant predictor of neighborhood change but was secondary to many other factors. A more comprehensive analysis of neighborhood change focusing again on socioeconomic ascent, from 1980 to 2010, in nine metropolitan areas with new LRT stations, found that such neighborhoods were slow to change but changed more quickly than comparable nontransit neighborhoods (Nilsson and Delmelle 2018).

Researchers have also noticed that the extent of rent or housing price increases around transit stations may vary between low-income and higher-income transit neighborhoods, depending on metropolitan area and period of study. Thus, Immergluck (2009) found that in Atlanta's transit neighborhoods, housing prices increased 15–30 percent in low-income neighborhoods near new planned stations but either remained the same or declined in high-income transit neighborhoods. On the other hand, Bowes and Ihlanfeldt (2001) and Hess and Almeida (2007) found the opposite, that housing price increases were higher in high-income transit neighborhoods that offered TODs with desirable neighborhood retail and commercial amenities.

Variations in these studies can be attributed to methodological differences but also to conditions on the ground. Gentrification is a complex phenomenon that affects the sociodemographic, economic, physical, and housing characteristics of neighborhoods. Evidence of the presence or absence of gentrification should ideally examine a wide variety of indicators of neighborhood change and compare their change longitudinally (across different time periods) and cross-sectionally (across different neighborhoods). Most gentrification studies, however, tend to look at a small number of variables either across time or across different neighborhoods (Pollack, Bluestone, and Billingham 2010). Additionally, often neglected in studies are specific characteristics of metropolitan areas (e.g., the planning policies they are implementing) and station neighborhoods (their location, availability of developable land, characteristics of their housing stock, etc.) that can make neighborhoods more or less vulnerable to gentrification. In general, many studies in the gentrification literature analyze demographic change in the population, or upscaling, without looking at changes in the built environment, or upgrading. The influx of capital, however, may be the most significant impact of transit. For instance, Deka (2016) analyzed changes in home values, rent, and race and ethnicity near rail transit in New Jersey, finding significant positive impacts only on home values. Studies also fail to account for the diverse group of growth machine actors who are coordinating transit investment to facilitate the movement of capital and who thus capture the profits as the value is capitalized into land (Revington 2015).

Rail Transit and Commercial Gentrification

Mixed land uses and retail opportunities are a key part of TODs, but studies on the relationship between retail change and TOD investments are only now emerging. Most research to date has focused on the relationship between rail proximity and commercial property values (Cervero and Duncan 2002c) or commercial building permit activity (Guthrie and Fan 2013), finding a positive association, which could subsequently lead to retail gentrification. Increases in land values around station areas can increase the number of stores in the transit station area, which may drive up rents, as Covarrubias (1999) found for Mexico City. It is commonly understood, too, that the construction of transit systems also may disrupt business activity, sometimes leading to business relocation or closure. However, there is little knowledge regarding which characteristics of TOD neighborhoods may be conducive to commercial gentrification. We will therefore give special attention to this topic in chapter 7.

Bus Rapid Transit and Gentrification

Since bus rapid transit (BRT) has low capital cost relative to other modes of transit (such as fixed rail), as well as flexibility in implementation and operation, it is becoming increasingly popular as an alternative to fixed rail (United States Government Accountability Office 2001; Jarzab, Lightbody, and Maeda 2002). However, there is limited evidence about the relationship between BRT and gentrification, or even land values in the adjacent neighborhoods (Johnson 2003; Rodriguez and Targa 2004).

The United States has been slow to implement BRT, so initial literature came mostly from other parts of the world, with significant research on TransMilenio, Bogota, Colombia's BRT. Growth rates are higher in zones served by TransMilenio, and it has had a positive impact on property prices, particularly for the middle-income strata (Muñoz-Raskin 2010; Bocarejo 2013). Those residing close to TransMilenio stations pay higher monthly rents: on average, housing prices fall between 6.8 percent and 9.3 percent for every five-minute increase in walking time to a station, in part because of an innovative land-banking program called Metrovivienda, which has kept prices affordable (Cervero 2005). However, work that is more recent has shown that, by and large, the TransMilenio system has failed to leverage development around BRT stations, and is thus likely to fall short in the long term (Cervero 2013). Likewise, in Seoul, the BRT is thought to have a limited impact on development generally, because it does not redistribute residential activities significantly (Jun 2012). Looking at Brisbane, Mulley et al. (2016) confirm that BRT may add a premium to land values, but a study of the Johannesburg BRT presents a contrasting perspective, affirming that it has the potential to reduce segregation by improving accessibility for underserved groups; however, the authors do not discuss whether TOD has appeared around the station (Griffith 2017).

In North America, an early study found that the BRT in Ottawa, Canada, appeared to have some effect on land development in areas surrounding stations (Mullins, Washington, and Stokes 1990). However, a review of studies from Houston, Pittsburgh, and San Francisco suggested that bus transit had no impact on either residential or commercial development (Rodriguez and Targa 2004). Likewise, a hedonic analysis applied to Los Angeles's BRT, one year after its initiation, did not detect any evidence of benefits to nearby multifamily parcels (Cervero and Duncan 2002b). More recent work, however, found that Los Angeles's Orange BRT Line had an effect, particularly on neighborhood upgrading (i.e., the real estate market), with rent and home value increases but mixed results in regard to demographic change (Brown 2016).

Rodriguez and Targa (2004) suggest that these mixed results could be partially explained by the BRT's lack of fixed guideways, as well as the cross-sectional research design of many studies and the newness of the service. Indeed, a study of a 25-year-old BRT system in Pittsburgh found a significant price premium for homes selling near it (Perk and Catala 2009). The implication is that where a BRT system can bring lasting improvements in accessibility on par with a fixed-rail transit system, housing markets may respond accordingly.

Rail Transit and Displacement

Does transit-induced gentrification lead to displacement? To our knowledge, while a number of studies have discussed the potential for displacement as a result of transit investments (Pollack, Bluestone, and Billingham 2010; Greenwich and Wykowski 2012), no empirical study has been able to measure the extent of any transit-induced displacement. Nevertheless, since researchers have found that transit neighborhoods tend to have higher concentrations of renters (Greenwich and Wykowski 2012), and transit investments have been shown to increase property values and rents, there are enough reasons for community advocates to worry about transit-induced displacement (Rayle 2015; Dawkins and Moeckel 2016).

In a synthesis of different literature on gentrification, displacement, and TODs, Rayle (2015, 543) seeks to explain the "paradox" between the lack of evidence of displacement in transit neighborhoods and the community groups' rising concerns about it. She identifies four potential explanations: (1) methodological shortcomings in measuring displacement; (2) inability of researchers to capture social and psychological effects of displacement on residents (loss of a sense of place and social networks); (3) reduced transportation costs that may counteract the higher rents and allow households to remain in place; and (4) work by advocacy groups that ensures some benefits in TOD plans for low-income households.

Internationally, despite the rich discussion of TOD-related gentrification, there has been little attention paid to displacement. Rail transit contributes to the displacement associated with urban transformation, as in the case of Santiago, Chile, but little evidence exists on the specific mechanisms: "The paradox is that the contribution of the metro is vital, virtuous and positive at times, especially when it interconnects and approaches key urban areas of the periphery with the center, but immediately leads to cases of revitalization of neighborhoods through a transformation of expulsion and replacement of inhabitants of the pericenter, by new inhabitants with higher incomes or even in areas of middle class housing, for a fast and effective mobility of real estate capital, from one comuna to another" (Aranda 2016, 9, translation via Google Translate).

Most of the literature actually focuses on the direct displacement that may occur through the construction of rail transit. In Addis Ababa, the construction of the LRT displaced up to 6,000 residents (Pedrazzini, Vincent-Geslin, and Thorer 2014). The expansion of the Philippine National Railways displaced 35,000 households in Manila, relocating residents to suburban housing far from services and job opportunities (Choi 2016). The use of eminent domain for the building of transit displaced residents from Delhi (Siemiatycki 2006), while, in Rio, BRT built for the Olympics arguably had even more displacement impact than the LRT because of running at grade (on the ground), increasing the potential for conflicts (Kassens-Noor et al. 2016; Gaffney 2015).

But some accounts focus on indirect displacement as well. Downward raiding in Manila stems from infrastructure construction as well as new-build gentrification (Choi 2016). "Transit-oriented gentrification" in Bangkok occurs along a mass transit extension, resulting in displacement and exclusion (Moore 2015). As Moore notes (2015, 487), "Similar demolition of old town houses can be seen in many locations along the transit lines. It seems likely that little can be done to redress such inequities as this displacement occurs as rental contracts and leases come to an end as opposed to illegal eviction, thus limiting policy interventions by the government."

Displacement related to rail transit may not be completely involuntary, however. In Naples, the construction of the light rail set off widespread migration, apparently voluntary, to the periphery (Pagliara and Papa 2011). In many Latin American cities, such as Mexico City and Santiago, the extent of displacement is minimized because of the high proportion of property owners around new transit stations (Covarrubias 1999). In the case of central Manila, few changes in land use have occurred, because of the lack of space for land development (Choi 2016).

The construction of rail transit can also have a less tangible but more symbolic impact, displacing prior meanings for a neighborhood and at times replacing them with new imaginaries. For example, displacement in Bangkok has meant an influx of new residents, who are less attached and neighborly (Moore 2015). Light rail in Jerusalem connects the entire city and thus reproduces power struggles between the Israeli authorities and the Palestinians (Nolte 2016). Powerful symbolic imagery about the urban rail project's potential to transform Delhi into a global city drove public support—and helped camouflage the project's considerable costs and negative impacts (Siemiatycki 2006).

Gentrification and Displacement in Global Perspective

Recent years have seen a proliferation of perspectives on gentrification and displacement around the world, suggesting a "planetary gentrification," a global process that is shaped by local contexts and actors (Lees, Shin, and López-Morales 2016a). By examining gentrification processes that are unfolding on different continents, we can broaden our understanding of causal mechanisms and dynamics, and in fact, the processes of transformation that we see in Asia, Latin America, Africa, and Europe call into question some of the basic assumptions in the Anglo-American literature.

Viewing gentrification and displacement globally reveals that upscaling and upgrading take place in a variety of ways. Change may occur in older neighborhoods of the periphery as well as at the core, and it may not be neighborhood based at all but instead localized to blocks or corridors. The influx of capital, and related speculation, may occur in the form of small-scale building renovations or as vast new-build developments.

Even though change manifests itself in different ways, depending on local context, the driving forces by and large remain the same: the forces of capital accumulation working in concert with the state. Behind almost every story of new-build gentrification is state facilitation of market forces, and behind almost every story of the influx of new residents is an increase in income inequality that is concentrating wealth in relatively few households while disempowering the masses. In the United States, the process often plays out also by replicating historic patterns of oppression and racism in minority communities. Even if these particular histories differ around the globe, similar power dynamics may impact neighborhood change in different cities.

When cities and regions build new transit systems, these change processes may accelerate. Just as accounts of gentrification are emerging from almost every continent, so are stories of transit-induced gentrification. Thus far, the focus has been more on direct displacement than on the chains of displacement, or the exclusionary displacement, found to occur with gentrification more generally (Marcuse 1986). However, we suspect this may result mostly from narrow definitions or methodological shortcomings. Like all gentrification processes, those spurred by transit are likely associated with displacement, whether before, during, or after the building of a transit station.

The possible negative effects of new transit systems on underprivileged residents and businesses in transit neighborhoods have led to calls for the adoption of policies that can better protect these parties (Pollack, Bluestone, and Billingham 2010). In chapter 10, we will examine a variety of policies and interventions that may help preserve existing communities near transit stations.

4 Impacts on Neighborhoods: Measuring and Understanding Gentrification and Displacement

A Starbucks opens its gates in an inner-city neighborhood, tucked in the ground floor of a new mixed-use building. A block down the road, some bungalow houses display a fresh coat of paint while a few “for sale” signs have popped up in the neighborhood. Is this gentrification? Are existing neighborhood residents and businesses under the threat of being displaced by their wealthier counterparts? What are the indicators and metrics that let landlords, tenants, developers, or policymakers know that a neighborhood is gentrifying or experiencing displacement?

As discussed in chapter 3, gentrification is a complex phenomenon that transforms localities. Three dynamic processes drive it: movement of people, public policies and investments, and flows of private capital (Zuk et al. 2015). The nature and intensity of change may vary across neighborhoods in a metropolitan area because of spatial variations in these factors. An example is the geographic distribution of infrastructure investment, such as the building of a transit station. As we discussed in chapter 2, a new station enhances a neighborhood’s accessibility and connectivity to the rest of the metropolitan area and may make it more desirable for residents and businesses. This may prompt demographic and/or business shifts, increases in land values, and changing opportunities for residents and other stakeholders (Owens 2012).

While gentrification signifies an upward trajectory for neighborhoods, indicating “neighborhood ascent,” it is worth remembering that after World War II, many inner-city neighborhoods experienced sharp disinvestment because of suburbanization and white flight. Early studies of neighborhood change focused on such decline, or “neighborhood descent,” as well as changes in the economy, demographic shifts, and discriminatory practices (Massey and Denton 1993). More recently, however, following investments to regenerate inner cities and the building of new transit infrastructure, many communities are no longer concerned with disinvestment but rather with the outcomes of the increased investment that has appeared in some inner-city neighborhoods in the form of gentrification (Zuk et al. 2015).

Consistently, activists, residents, and community-based organizations (CBOs) identify displacement as the biggest negative impact resulting from gentrification. Anxieties about residential, retail, and job displacement reflect the lived experiences of neighborhood change and the social memory of past displacements, such as when "the federal bulldozer"—the federal urban renewal program of the 1950s and 1960s—was forcibly displacing low-income and communities of color en masse from urban neighborhoods. While the menace of urban renewal subsided in the 1970s and 1980s, a "back to the city" movement and a shortage of new construction of nonluxury housing in more recent decades has made the threat of gentrification and displacement valid for some neighborhoods, where developers are buying and "flipping" houses that attract wealthier newcomers. Though this more recent trend is perceived to be largely driven by private actions and individual preferences, we will show later in the book that public sector investments have also contributed.

But how do we measure gentrification and displacement? While these two processes have transformed a number of neighborhoods in post–World War II America, social science research attempting to quantify their scale and nature has come up short. This chapter reviews different methodologies that seek to measure and understand gentrification and displacement, and discusses their contributions and shortcomings. By tracing attempts to define and measure displacement, we highlight significant methodological limitations, including data availability and narrow definitions of displacement, and explore specific interpretations of the significance of displacement that potentially mask its impacts on communities. Based on this review, we suggest a methodological approach that not only triangulates neighborhood data and neighborhood knowledge to better understand change but also integrates local knowledge into the methods, through interviews with neighborhood groups. We illustrate these methods by applying them to the study of two case study neighborhoods in Los Angeles and the San Francisco Bay Area. In this chapter, we highlight the need for mixed methods that can help clarify decades of confusion.

Challenges of Measuring Gentrification and Displacement

Since the 1960s, a multitude of studies in the United States and overseas have sought to identify the magnitude of gentrification-induced change and document its impact on neighborhoods, but measuring complex phenomena of neighborhood change such as gentrification and displacement is difficult because they do not happen overnight but rather span a period of years. At the same time, finding data that allow for the simultaneous measurement of physical, cultural, economic, and demographic shifts ensuing from gentrification or displacement can be an arduous task (Benton 2014). Thus, much research on gentrification has only measured particular aspects or impacts of the phenomenon, such as demographic changes in a neighborhood or changes in its housing stock.

Research that measures displacement and its causes is also challenging because it is difficult to trace the people who have left the neighborhood or identify their reasons for doing so. Displacement can be direct—for example, when a landlord evicts tenants, razes their building, and replaces it with a new structure—or indirect, when tenants are forced to relocate to another neighborhood because they cannot pay the higher rents that landlords are demanding or cannot cope with the lack of building maintenance. Displacement is often involuntary, when tenants are forced to leave despite their wish to stay in a neighborhood, but can also be voluntary, when, for example, existing homeowners decide that it makes good economic sense to sell their house and capitalize on its increased value.

Researchers have found that it is very difficult to pinpoint the relationship between gentrification and displacement, or even just to define how much indirect and involuntary displacement is occurring. Various researchers have estimated the extent of involuntary displacement, most notably Newman and Wyly (2006), who find that up to 10 percent of rental moves each year in New York City result from displacement. However, cities like New York, San Francisco, or London may be anomalous because of their unique combination of very hot rental markets and stringent tenant protection and rent stabilization laws. As discussed in chapter 3, several studies that analyze patterns across metropolitan areas suggest that gentrification and mobility are not strongly associated—in fact, poor renters are more likely to remain in gentrifying areas than to depart (McKinnish, Walsh, and White 2010; Ellen and O’Regan 2011; Freeman, Cassola, and Cai 2016).

Even when survey data on the reason for moving are available, they may be inaccurate. For instance, the sample may not include those who have already moved out, and thus it may understate the extent of displacement. Rarely does a survey ask renters whether they have moved because of the threat of a rent increase (or other kinds of landlord harassment) rather than an actual increase. Displacement numbers may also overstate displacement by including those experiencing trouble paying the rent not because of rent increases but as a result of personal economic hardship, such as the loss of a job, or disagreements over damage to or maintenance of a housing unit.

Most researchers have narrowly defined displacement as evictions or unaffordable price increases. Court records on evictions describe the reasons for owner action. However, they are not available in database or aggregate format, with the exception of the few cities with rent control laws that track evictions carefully (e.g., San Francisco). Even when such records are available, landlords may not accurately depict the cause of the eviction (Chapple 2009; Desmond 2016).

The narrow approach to measuring gentrification or displacement stems from two factors. Researchers have access to limited data and are challenged to impute the motivation behind household moves. Tracking which exits from a neighborhood are actually forced by displacement is difficult. Indeed, it has been argued that measuring displacement is akin to "measuring the invisible," as the population under question has moved away from the place of study (Atkinson 2000, 163). Perhaps because of this, definitions and operationalization of displacement are often driven by the data available. Furthermore, scholars frequently define displacement based on the scope and sponsor of their research agenda. For instance, many of the early HUD-funded studies on displacement were specifically concerned with the role of HUD programs in residential displacement and therefore narrowly defined it as displacement resulting from public action (United States Department of Housing and Urban Development 1979). Another early study (Schill, Nathan, and Persaud 1983, 47) that focused on revitalization-induced displacement defined displacement as that occurring only as a result of "neighborhood reinvestment or upgrading."

Most studies suffer from significant data limitations that constrain their understanding of what drives gentrification or displacement, and how to predict it. We can observe four major limitations: (1) inconsistent definitions and operationalization of the terms gentrification and displacement, (2) differences in the definitions of a comparison group and controls to calculate and compare displacement rates, (3) time frames of analysis that may not capture the full processes of neighborhood change, and (4) ambiguous criteria against which to determine the significance and meaning of research results. Together, these challenges limit the ability of researchers to adequately capture the full magnitude and impact of gentrification and displacement, which we will explain further.

Studies define and operationalize gentrification or displacement in slightly different ways, not only making it difficult to compare across studies but also significantly impacting the findings. As noted in chapter 3, in defining gentrification, some authors only focus on sociodemographic shifts, while others include built environment transformations. In almost all studies, with the exception of Freeman (2005), gentrification is measured by average household income change without accounting for private or public investment. However, an influx of capital into a neighborhood or patterns of real estate speculation might have much stronger impacts on resident stability than simply higher-income households moving next door.

Similar inconsistencies occur in the definition of displacement. For some, displacement only encompasses evictions, whereas others include such concepts as exclusionary displacement and even chains of displacement. The vast majority of studies narrowly define displacement under what Peter Marcuse (1986) would classify as physical or economic displacement, but they ignore or dismiss exclusionary displacement. This shortcoming results not only from data and methodological limitations but also from normative understandings of what constitutes forced displacement. One study may claim to find evidence of displacement (at least of the exclusionary kind) because those moving in are becoming whiter and more affluent. Even though the exclusion is not forced, the groups that used to move into the neighborhood can no longer do so. Other authors, however, may define such phenomena as merely succession or replacement. How we define the phenomenon matters for how we interpret the results. Furthermore, as discussed in chapter 3, these studies rarely make an explicit link between gentrification and displacement. It is important to understand not only whether gentrification predicts displacement (or vice versa) but also what dimensions of gentrification and what factors spurring gentrification also cause displacement (or vice versa) and under what conditions.

Another key limitation is lack of a consistent and clear identification of a comparison group. While some argue that we should compare the extent of displacement between poor gentrifying neighborhoods and poor non-gentrifying neighborhoods (Vigdor 2001; Freeman 2005), others believe we should be comparing it to citywide averages or to more stable neighborhoods in general (Newman and Wyly 2006). Furthermore, some studies calculate displacement as a percentage of all movers, while others use a percentage of all households, either citywide or by neighborhood. These comparison groups are important because they not only provide a context against which to evaluate findings but also reveal belief systems about our normative understandings of how neighborhoods should function.

Further obscuring the relationship between gentrification and displacement is the issue of timing. Neighborhood change is a long process, and many studies only look at relatively short time periods. In its early phases, gentrification may not result in displacement, but over time, in the absence of protections, tenants may be forced to move. Alternatively, gentrification may occur well after processes of displacement have concluded. As a result, the principal barrier to studying the relationship is the lack of appropriate panel data to determine the extent of mobility and displacement. Furthermore, if one were to consider the full chains of displacement, as suggested by Marcuse (1986), it would be important to extend the analysis to the period prior to gentrification to carefully consider disinvestment-related displacement as part of the gentrification-displacement phenomenon.

Finally, the existing literature lacks any consistent measure or criteria against which to interpret findings. Whereas some studies highlight the low predictive power and limited interpretability of their modeling results (i.e., Wyly et al. 2010), others barely even report on the statistical significance of their findings (i.e., Vigdor 2001) or else minimize their relevance based on the statistical magnitude of the effect. For instance, some authors interpret their statistically significant results of the higher rates of displacement in gentrifying neighborhoods as too small to be of concern (Freeman 2005). For other researchers, however, such findings are worrisome because they significantly impact real people in real neighborhoods. Whether the impact is large or small is a relative interpretation that lies in the eyes of the beholder. This limitation, which augments the differences in the definition of the reference population and control groups, should be carefully examined, made transparent, and its implications discussed in any study that has the potential to impact people's lives.

Many of the methodological limitations discussed are ultimately data driven. Where more detailed disaggregate data exist, such as the Panel Survey of Income Dynamics (PSID) or the census long form, they lack information about households' reasons for moving and do not have sufficient spatial resolution or coverage to contribute to local knowledge (e.g., the National Household Survey).

Where local data are available (which is rare), they may not contain information about where displaced households are displaced from (e.g., the New York Housing Vacancy Survey). Even when datasets such as the American Housing Survey (the confidential panel version) or the PSID allow tracking of individual households, their responses to questions about reasons for moving are not precise enough to measure displacement (e.g., there is no answer option for "the landlord raised the rent"). For this reason, it is important to not only compare and combine datasets as much as possible but to carefully understand and explore the implications of the data limitations.

Additionally, a methodological dichotomy characterizes much of the existing gentrification and displacement literature, as studies are composed as either quantitative "macro" analyses or qualitative "micro" inquiries of neighborhoods in the form of case studies (Hammel and Wyly 1996).

Quantitative studies rely heavily on data from the US census, described as the "most comprehensive and comparable source of data" on changes in urban neighborhoods (Hammel and Wyly 1996, 248). The major focus of these studies is the measurement of demographic shifts to define gentrifying areas over a number of years with indicators such as changes in the racial or ethnic composition, income, and educational attainment of residents (Barton 2016). The shortcoming of census data for understanding neighborhood change is that it is only readily available at an aggregate level, which makes it impossible to understand whether differences are caused by changes for incumbents or the profile of newcomers. For instance, neighborhood household income changes could reflect either growing prosperity among existing residents or the arrival of affluent newcomers. Moreover, as the census aggregates blocks into block groups and census tracts, it may become impossible to detect change—increasing rents and displaced households—that is occurring in just a few buildings.

More complex quantitative approaches link noncensus data from large-scale surveys to census measures and geographies. For instance, Freeman (2005) links geocoded data from the PSID to decennial census data and analyzes the data at the census tract level to compare displacement in gentrifying tracts to low-income tracts that did not gentrify using characteristics such as location, income, and educational attainment. Bostic and Martin (2003) use a similar approach, aggregating 1970–1990 data from the Home Mortgage Disclosure Act to the census level to study the role of racial minorities in the gentrification of neighborhoods. Their research builds on previous work by Wyly and Hammel (1999), who examined gentrification in eight American cities during the 1990s.

In recent years, the volume of neighborhood-level data and information has increased dramatically. For example, parcel-level data (from the county assessor's office) and business data (e.g., from Dun and Bradstreet) are now easily accessible annually. Researchers have access to and can use many different indicators and sources of data for characterizing residential displacement, each with its own set of advantages and disadvantages (table 4.1). Not all such data, however, are always gathered regularly or consistently, let alone made publicly accessible.

Studies utilizing census-based quantitative methodologies to measure neighborhood change give insights about segregation, population dynamics and "tipping points," neighborhood life cycles, and neighborhood revitalization and gentrification (Schwirian 1983). However, one shortfall of the quantitative approach is that it cannot easily compare and "verify" results of census-based findings with what actually exists on the ground (Hammel and Wyly 1996, 248). Additionally, the geography of the census tract is not always ideal for understanding neighborhood processes; thus, aggregated quantitative data at the census tract level may miss subtler changes occurring on the ground.

Qualitative studies on gentrification or displacement have usually taken a case study or ethnographic approach to provide an in-depth look at neighborhood change. Such studies often rely on "groundtruthing," information gathered by direct observation as opposed to information provided by aggregation and inference. Qualitative studies typically utilize a combination of built environment analyses and observations and stakeholder interviews. For instance, in his case study of West Town in Chicago, Betancur (2002) uses interviews, media coverage, and field observations to examine

Table 4.1

Indicators and data sources for analyzing gentrification and displacement

Indicator type	Indicators	Data sources
Change in property values and rents	Property value	County tax assessor's office, Department of Finance, data aggregator
	Rent	Data aggregators, apartment operating licenses, Craigslist
	Changes in availability of restricted affordable housing	US Housing and Urban Development (HUD), local housing departments
Investment in the neighborhood	Building permits, housing starts, renovation permits, absentee ownership	Jurisdiction's building or planning departments
	Mortgage and other lending characteristics	Home Mortgage Disclosure Act and Small Business Administration data, assessor data, tax credit data
	Sales (volume and price)	County assessor's office, data aggregators
	Change in community organizations and businesses (#, membership, nature of activities, sales, jobs, etc.)	Public business licenses, proprietary business data, neighborhood or local business associations, National Center for Charitable Statistics, etc.
	Public investments (transit, streets, parks, etc.)	Capital and operating budgets from public works departments, transit agencies, parks and recreation, etc.
Disinvestment	Building conditions, tenant complaints, vacancies, fires, building condemnation	Surveys, census, building departments, utility shutoffs, fire department
	School quality, crime, employment rates, neighborhood opportunity	Department of education, police departments / crime maps, census, US Bureau of Labor Statistics
	Neighborhood quality	Local surveys
Change in tenure and demographic changes	Tenure type, change in tenancy	Building department, assessor's office, census
	Evictions	Rent board, superior court
	Condo conversions	Tax assessor's office, housing department, public works department
	Foreclosure	HUD, proprietary data sources
	Demographic data on movers in vs. movers out (race, ethnicity, age, income, employment, educational achievement, marital status, etc.)	Census, voter registration, real estate directories, surveys, American Housing Survey, Department of Motor Vehicles

(continued)

Table 4.1 (*continued*)
Indicators and data sources for analyzing gentrification and displacement

Indicator type	Indicators	Data sources
Investment potential and rent gap	Neighborhood and building characteristics (e.g., age and square footage, improvement-to-land ratio)	Tax assessor's office, census, deeds, etc.
	Neighborhood perceptions	Surveys of residents, realtors, lenders, neighborhood businesses, newspapers, TV, blogs, social media, etc.
Reasons that people move in/out of neighborhood	Reason for move	Surveys of in- and out-movers, housing discrimination complaints databases
Coping strategies / displacement impacts	Crowding / doubling up	Census, utility bills, building footprint
	Homelessness	Census (local and national)
	Increased travel distance and time	Census

the role of local dialectics of power, class, and race or ethnicity in the process of gentrification.

Other qualitative studies focus on the opinions of proponents or opponents of gentrification. This includes ethnographic work such as that of Berrey (2005) on the political discourse of diversity in Rogers Park in Chicago, and Robinson (1995) on grassroots resistance to gentrification in San Francisco's Tenderloin. While most studies examine middle- and upper-class white movers into communities of color (Zuk et al. 2015), some studies have also examined the relocation of black, middle-class movers into low-income black neighborhoods (Taylor 2002; Boyd 2005; Freeman 2005; Hyra 2008; Pattillo 2008; Moore 2009).

Qualitative studies are often richly detailed, time-intensive ethnographic accounts of neighborhood change. They usually focus on a single neighborhood or small group of neighborhoods experiencing gentrification or displacement (Mele 2000; Freeman 2005; Maurrasse 2006). One shortcoming of qualitative approaches is that they generally do not integrate analyses of census data to verify findings from neighborhood-based fieldwork (Hammel and Wyly 1996). As opposed to the longitudinal analyses of many quantitative studies, most qualitative research tends to examine a single neighborhood or a small number of neighborhoods at one point in time and thus lack the ability to use control measures for comparison with other neighborhoods.

A mixed-methods approach has emerged that links quantitative data with qualitative data to “groundtruth” and triangulate information about neighborhood change. An example is the work by Hammel and Wyly (1996), who groundtruth census reports of neighborhood upscaling using field observations of visible housing reinvestment. Similarly, Sampson (2012) collected a robust database from street-level observations of neighborhood social and physical disorder in Chicago. Another example is the work by Hwang and Sampson (2014) examining gentrification in Chicago through a diverse array of information, including census-based indicators, police records, community surveys, city budget data on capital investments, and built environment observations from Google Street View. Additionally, some scholars include as part of their data resident perceptions and observations about gentrification and neighborhood change. For example, Sullivan (2007) used 460 surveys with residents of two Portland neighborhoods to convey the opinions of different groups in gentrifying neighborhoods. Such studies seek to understand neighborhood change more holistically by using a mixed-methods approach that combines secondary data from the census and administrative records, qualitative observations of neighborhood ascent, and input from various stakeholders, often contrasting these data to test their accuracy.

In what follows, we employ a mixed-methods approach to show how it can paint a richer picture of the extent of gentrification and displacement in some transit neighborhoods in Los Angeles and the San Francisco Bay Area.

Challenges of Understanding Gentrification and Displacement in Two Neighborhoods

To illustrate how different methods present contrasting or incomplete views of gentrification and displacement in a neighborhood, we next examine two transit neighborhoods—Chinatown in Los Angeles and Concord in the Bay Area—focusing on the area within a half-mile radius from their station. Each case highlights some aspects of the disconnect between perspectives built on primary data versus those using secondary data. The case of Concord shows how a neighborhood that does not appear to be gentrifying by conventional secondary data metrics actually has active investment and disinvestment activity that indicates, at the very least, a *pre-gentrification* stage. In the case of Los Angeles Chinatown, the secondary data identify residential gentrification at the neighborhood outskirts but provide a very incomplete picture of commercial gentrification that is also taking place.

Sources of Neighborhood Information

To understand whether gentrification occurs in the two neighborhoods, we used three major sources of information: (1) secondary data about neighborhood sociodemographics, housing stock, and sales, mostly from the US census; (2) systematic visual surveys of the two neighborhoods; and (3) interviews with neighborhood stakeholders.

Sociodemographic shifts—in particular, the replacement of lower-income, less-educated residents by a higher-income, highly educated population in a neighborhood—is one sign of gentrification. Other signs of gentrification and displacement may be proxied by changes in a neighborhood's building stock and housing affordability. Therefore, we inquired about changes in the socioeconomic and tenant characteristics of neighborhood residents over the last decade, namely average household income, educational attainment, percentage of renters, and race or ethnicity characteristics (see table 4.2). To track changes in the neighborhood building stock, we examined parcel-level tax assessor's data to determine if a single-family property had received a major renovation or if new units had been built or added to existing properties. We also examined changes in affordable rental units and Section 8 housing partially or completely within the half-mile radius[1] and tracked changes in housing prices and rents.[2]

Secondary data do not convey information about urban form characteristics or the residents' lived experiences, which are better captured in qualitative fieldwork research. We therefore conducted systematic visual surveys, walking around the two neighborhoods, making an inventory of visual indicators, and using these observations to document change, adding context to the secondary data. We gathered visual clues from neighborhood streets and parcels and photographed each block and parcel, aiming to capture a variety of indicators signifying the possible presence or absence of gentrification (e.g., extensive renovations, new construction, high-end specialty stores and hipster establishments). We also sought to document urban form elements explicitly linked to neighborhood change, upscaling, and the presence or absence of social disorder (e.g., "for sale" signs, yoga

Table 4.2
Type of secondary data collected

Type of change	Type of data	Source	Unit
Sociodemographic change; change in tenure (from 2000 to 2013)	% Non-Hispanic white % Pop. with lower than high school education % Pop. with college degree Median household income % Low-income (<$10k) % High-income ($125k+) % Renters % Rent-burdened household (paying 30% or more of income on housing)	US census	Census tract
Building stock change	# New single-family units constructed # New multifamily units constructed # of major renovations # of condo conversions	Tax assessor's data	Parcel
Housing affordability change	# of affordable rental units # Section 8 housing choice voucher households Mean gross rent # Low Income Housing Tax Credit (LIHTC) units	Decennial census and ACS HUD's Picture of Subsidized Housing LIHTC database	Block group

studios, bars and coffee shops, galleries). Table 4.3 summarizes the types of data collected through visual surveys.

The people who live or work in a neighborhood are the first to notice neighborhood changes that are difficult to quantify or track. We therefore complemented the secondary data and field observations with interviews with representatives from local community-based organizations (CBOs), merchants, private developers, and public agencies active in the two neighborhoods. The interviews centered on the respondents' perceptions regarding neighborhood change and gentrification.[3]

Concord: Displacement with Gentrification Nowhere in Plain Sight

The case of Concord, California, illustrates the challenges of understanding neighborhood change through secondary data. Here, census and real estate data paint a picture of a neighborhood lagging in growth, despite the

Table 4.3

Visual observation data collected

Street segment	Parcel
Type of land use	Building type (SF, MF, commercial, etc.)
Building stock	Building signs
-new construction	-for sale / for rent
-major renovation	-eviction notices
Street amenities	Visible occupancy status
-pedestrian lighting	Signs of gentrification
-bus shelters	-new construction
-bike infrastructure	-renovation
Physical disorder	-upscale landscaping
-graffiti	Overall building appearance
-litter	Physical appearance relative to surrounding buildings (roughly consistent, out-of-place, higher-end; out-of-place lower-end)
Ethnic presence	
-ethnic signs	
-ethnic businesses	
Signs of commercial gentrification	
-upscale cafés, bars, restaurants	
-yoga studios / upscale gyms	
-boutiques	
Signs of residential gentrification	
-upscale new buildings	
-upscale landscaping	
-clean energy vehicles	

development possibilities that result from improved transit connectivity. However, primary data from interviews and observations suggest a different story, of families doubling up as rents escalate and developers actively preparing to upgrade properties for new, high-income occupants. Even if the city is not actually gentrifying by conventional measures, it seems to be undergoing an early stage of gentrification, directly related to the presence of a BART station.

In the decades following World War II, suburban home seekers found the city of Concord, with its small-town feel and verdant land stretching to the foothills of Mount Diablo, a desirable and inexpensive place to settle. The city facilitated the development of new subdivisions via the expansion of thoroughfares and widening of streets. Although BART opened its Downtown Concord station in 1973, the city did not take advantage of the new accessibility but instead supported office park development and dedicated funds for the construction of parking garages (Dymond 2000).

Once Bank of America and Chevron vacated almost two million square feet of office space, the downtown began to feel like a "ghost town" (according to a stakeholder), and the only significant development planned was a new, auto-oriented mall. Most recently, after obtaining a priority development area designation from the regional agencies and crafting a new downtown plan, the area near the transit station is beginning to see some new retail activity and market-rate housing development.[4]

This in turn raises questions about whether the Monument neighborhood will benefit. A 3.8 square mile area largely bounded by arterials (figure 4.1), this predominantly low-income, Latino neighborhood abuts downtown but is culturally and physically distinct; even its residents describe the walk from the BART station as dangerous. Since 1980, Monument has seen a huge racial and ethnic demographic shift, from majority white to majority Latino (figure 4.2). By 2010, the Monument had a poverty rate of 28 percent—over four times the rate across the city overall, which stood at 6 percent—and 79 percent of the residents were rent burdened, paying 35 percent or more of their income for rent.

Census data paint a picture of the area that is very different from local perceptions. According to census data, Monument has seen a 67 percent increase in population since 1980, to 24,000 residents. However, a local community-based organization, Monument Impact, contests that figure, based on its surveys of undocumented immigrant residents, placing it closer to 37,000 (Monument Impact 2014). Likewise, census data appear to show that there was a decline in the number of renter- and owner-occupied units that are overcrowded, from 25 percent to 13 percent. Stakeholders who work closely with community residents, however, tell a different story. It is not uncommon for multiple families to live under the same roof or for families to share rooms or occupy living room spaces in order to cope with rising housing costs. As Monument Impact notes, the census data may underreport poor conditions because locals are reluctant and fearful to share their experiences with census surveyors (Monument Impact 2014).

Though secondary data suggest that the area is rebounding (as attested by local rents in figure 4.3), most other indicators of gentrification are not present. Not only is the population not transitioning to white but educational attainment remains low and median household income is declining. The data on increasing real estate prices presents contradictory trends, specifically real estate investment to attract outsiders occurring concurrently

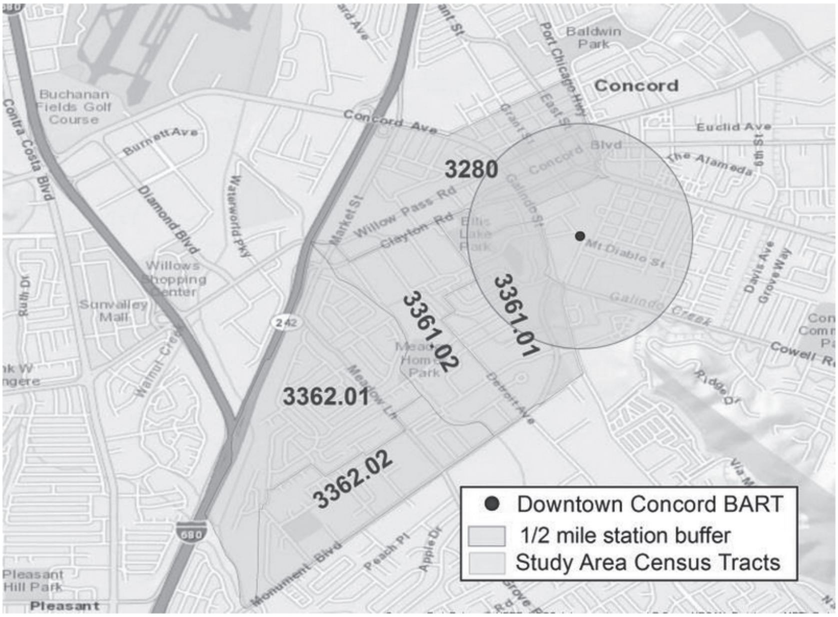

Downtown Concord BART
1/2 mile station buffer
Study Area Census Tracts
3280
3361.01
3361.02
3362.01
3362.02
Concord
Baldwin Park
Buchanan Fields Golf Course
Concord Ave
Contra Costa Blvd
Burnett Ave
Diamond Blvd
Waterworld Pkwy
Market St
Willow Pass Rd
Clayton Rd
Ellis Lake Park
Galindo St
Mt Diablo St
Galindo Creek
Euclid Ave
The Alameda
6th St
Davis Ave
Grove Way
Cowell Rd
Ridge Dr
Port Chicago Hwy
East St
Grant St
Concord Blvd
Willows Shopping Center
Sunvalley Mall
Walnut Creek
Ruth Dr
242
680
Meadow Homes Park
Meadow Ln
Detroit Ave
Monument Blvd
Peach Pl
Apple Dr
Pleasant Hill Park
Pleasant

Figure 4.1
Map of Monument neighborhood and BART station. Graphic by the authors.

with disinvestment in housing for current residents. A landlord who owns a large apartment complex on the edge of the neighborhood is anticipating the next real estate cycle, in the hope that San Francisco's heated market will reach Concord:

> I am thinking that the time will come when market prices will sustain a price level here that will make it irresistible for us to no longer run it as a rental operation [i.e., convert it to condos].

To ready the building, he has displaced the tenants and remodeled. As he told us,

> We market to a lot of BART riders. I call them the "laptop crowd." … We have radically modified the population since we took it over in the bankruptcy. At that time it was 99% Latino, either large families or extended families or mercenary groups [e.g., renting beds to unrelated individuals]…. We've gotten rid of all of that market, we have gotten rid of all the excessive occupation units.

Nearby, observations revealed investment in single-family homes, including new roofing, windows, and landscaping. The foreclosure crisis of 2007–2010 created an opportunity for investors to purchase foreclosed

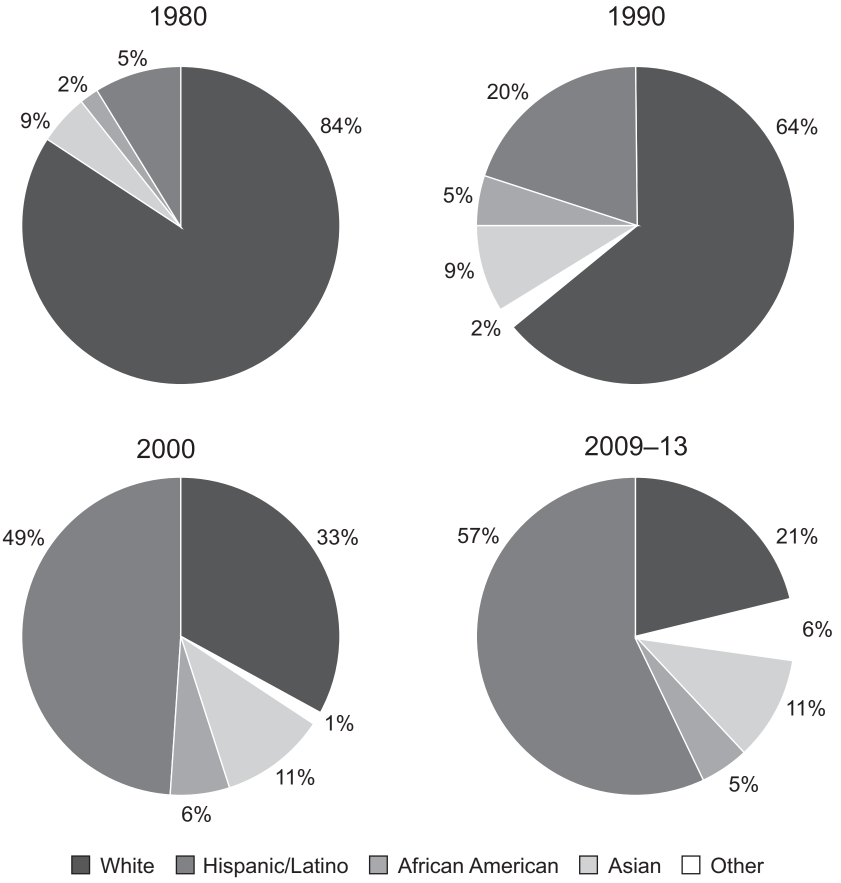


Figure 4.2
Racial and ethnic composition in the Monument, 1980–2013, based on the authors' calculation from the US census and American Community Survey.

properties in the neighborhood at low prices (figure 4.4), and the Monument neighborhood was even promoted as one of the top ten in the region for hipsters to "flip" houses, meaning purchase the property with no intent to occupy it but rather renovate and resell it for a profit (Erwert 2014). On average, 44 properties per year were flipped in the neighborhood from 2010 to 2013.

Meanwhile, as rents are increasing, the quality of life is not necessarily improving. Interviews revealed a severe bedbug infestation that plagues the multifamily units, where low-income residents live. Although the city of Concord enacted a bedbug policy in 2014, code enforcement is managed

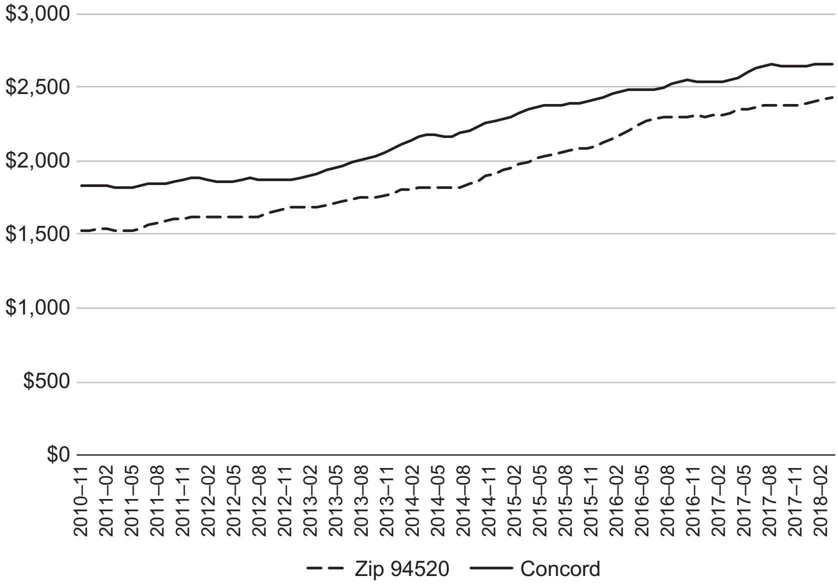


Figure 4.3

Rents in the Monument (zip 94520) compared to the city of Concord based on data acquired from Zillow.com/data on June 16, 2018. Aggregated data on this page are made freely available by Zillow for noncommercial use.

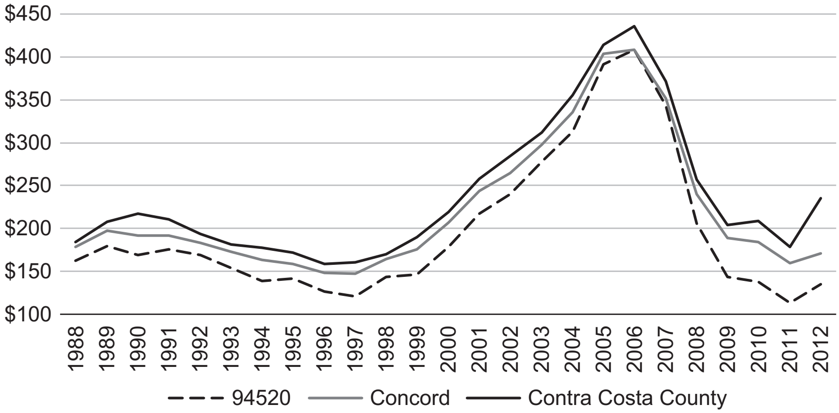


Figure 4.4

Monument average sales price per square foot, 1990 to 2013, based on the authors' calculation from Dataquick (2014).

by the local police department, which is widely feared by undocumented immigrants unfamiliar with their legal rights. With no recourse, tenants move out—a form of indirect displacement.

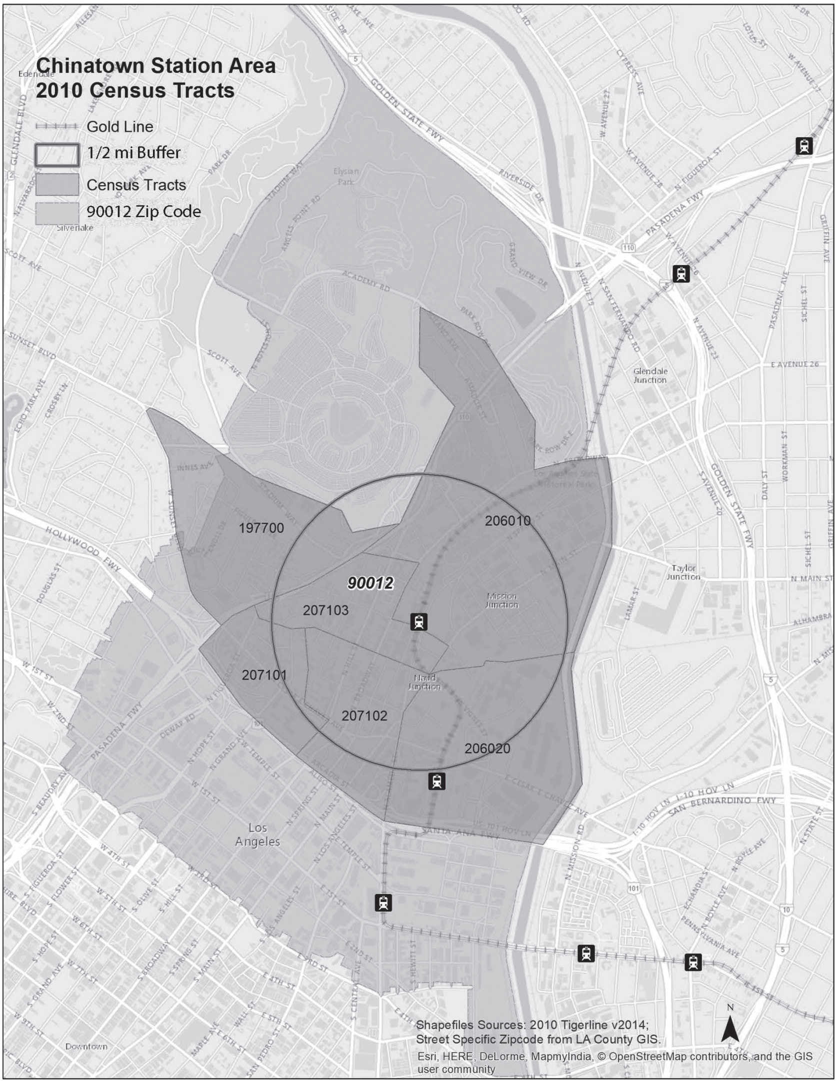
Thus, secondary data on the population and real estate tell a story of transition, impoverishment, and mixed recovery. The Monument neighborhood, as a low-income, poorly educated, Latino renter area, is technically susceptible to gentrification, and rents have indeed been increasing in the area. Disinvestment is occurring alongside investment, however, as some property owners are still trying to empty out undesirable tenants, while others are already housing more affluent residents. This story only emerged through primary data.

Los Angeles Chinatown

As is the case with the Monument neighborhood of Concord, the secondary data do not give a complete picture for Los Angeles Chinatown. Chinatown is a mixed-use ethnic neighborhood north of downtown (figure 4.5), but the neighborhood that today is called Chinatown is not the original settlement of Chinese Americans in the area. In the late 1920s and early 1930s, the city deliberately displaced them from the area around the Plaza and demolished their original residences and businesses to make way for the commercial reconstruction of Plaza Oliveira and the new Union Station (Hata and Hata 2006). Confined to their new ethnic enclave by legislation and racial backlash, early Chinese merchants developed family-owned “mom-and-pop” stores in the late 1930s and 1940s. Today, many of these small businesses lining Chinatown’s commercial corridors continue to cater to the shopping needs of residents and visitors, but new, large residential developments and shopping centers and minimalls have also popped up in the last decade.

Although predominantly an Asian American neighborhood today, Chinatown also has Latino, black, and non-Hispanic white residents (figure 4.6). It is primarily a neighborhood of renters, who represent 93 percent of all residents. The mean household income of Chinatown residents was about $34,000 in 2013, significantly lower than the county average of $81,500.

The Chinatown transit station opened in 2003 as part of the Gold Line LRT that connects downtown Los Angeles with communities to the north and northeast. This public investment, combined with Chinatown’s prime geographic location next to downtown, its population of renters, and its relatively affordable land values, makes the neighborhood vulnerable to


Chinatown Station Area
2010 Census Tracts
Gold Line
1/2 mi Buffer
Census Tracts
90012 Zip Code
197700
206010
90012
207103
207101
207102
206020
Mission Junction
Naud Junction
Los Angeles
Glendale Junction
Taylor Junction
Elysian Park
Downtown
N

Shapefiles Sources: 2010 Tigerline v2014;
Street Specific Zipcode from LA County GIS.
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Figure 4.5

Chinatown and Metro station (at the center). Map by the authors.

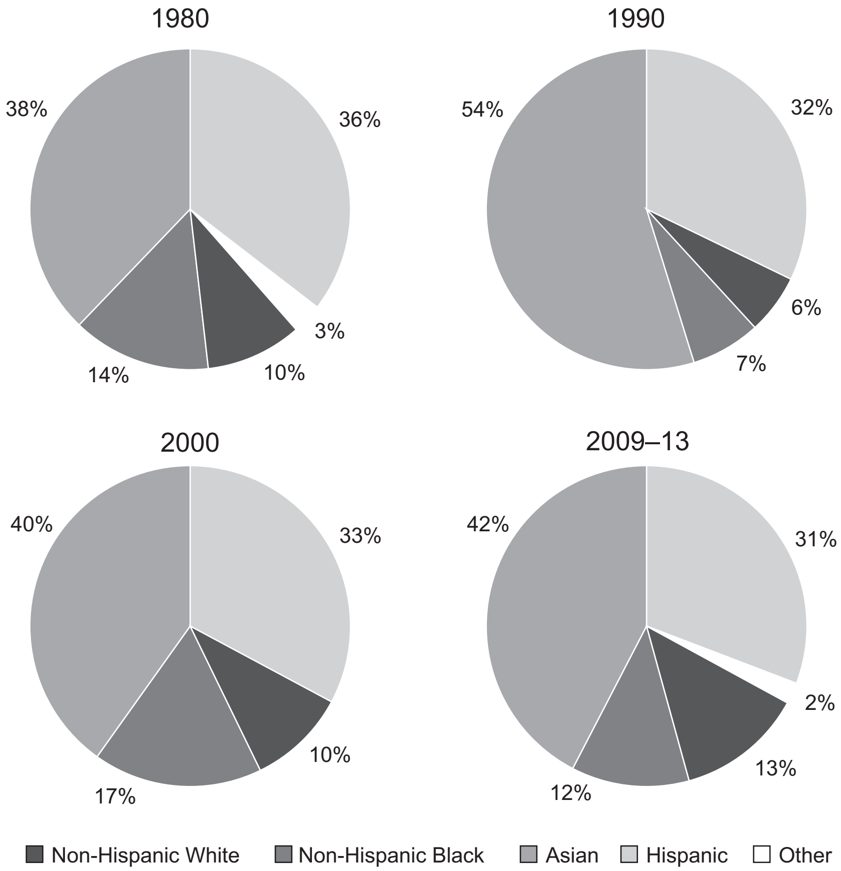


Figure 4.6

Racial and ethnic composition in Chinatown, 1980–2013, based on the authors' calculation from the US census and American Community Survey.

gentrification. Indeed, interviews with community activists and merchants in Chinatown revealed their deep concerns about gentrification and displacement because of rising rents, new residential developments that do not include enough affordable housing units, and the closure of some long-standing anchor businesses along with the simultaneous appearance of new businesses that cater to a younger crowd. Community groups believe that the area is currently experiencing gentrification, as they see a gradual transformation that includes new housing, public services, and some commercial activities that are inconsistent with Chinatown's historic identity (Mai and Chen 2013; Chinatown Community for Equitable Development 2015).

The secondary data only show signs of early residential gentrification at the southwest outskirts of Chinatown, where some new multifamily developments have been built. Since 2000, Chinatown has experienced a 3 percent increase in its white population, in contrast to Los Angeles County, which witnessed a decrease of 4 percent. The percentage of low-income households in Chinatown has dropped more than in the county, but while the neighborhood has seen a modest rise in high-income households, it still remains primarily low income. The median rent has increased but is still below the county average, while the percentage of rent-burdened households has also increased in the neighborhood, consistent with the county average (table 4.4 and figure 4.7). From 2000 to 2013, Chinatown experienced a 14 percent drop in its affordable housing stock, but this was in line with the 13 percent reduction experienced by the county as a whole.[5] Assessor's data show that in the five-year period from 2008 to 2013, Chinatown saw significant building activity of primarily market-rate housing, with 147 new units built within a half mile from the station.

Talking to realtors in the area, we found that residential development has only accelerated in the last few years. Jia Apartments, a six-story, 280-unit market-rate apartment building, opened in 2014. At its opening, one-bedroom apartments were offered at $1,825 (E. Kim 2014). A 237-unit residential complex, Blossom Plaza, opened its doors in 2016. In 2017, the project's website

Table 4.4
Sociodemographic changes in Chinatown, 2000–2013

	Los Angeles County	Chinatown
Δ % Non-Hispanic white	–4	3
Δ % Less than high school	–7	–6
Δ % College	5	5
Mean household income (2013)	$81,416	$34,088
Δ Mean household income	–$4,999	–$543
Δ % Low-income (<$10k)	–1	–13
Δ % High-income ($125k+)	–2	3
Δ % Mean gross rent	$253	$231
% Renters	53	93
Δ % Renters	1	1
% Burdened (>30% of income in rent)	57	54
Δ % Burdened	13	7

Source: 2000 census, 2009–2013 ACS five-year ACS, aggregated to the block group level.

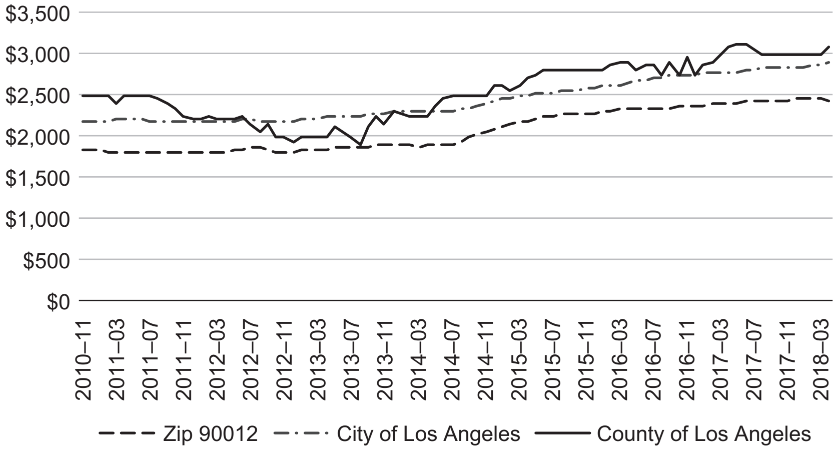


Figure 4.7

Rents in Chinatown (90012) compared to those in Los Angeles County and the city of Los Angeles based on data acquired from Zillow.com/data on June 16, 2018. Aggregated data on this page are made freely available by Zillow for noncommercial use.

advertised one-bedroom apartments for prices ranging from $2,134 to $3,580 (https://blossomplazala.com/floor-plans/). Several other mixed-use and market-rate residential projects have applied for permits.

Representatives from Chinatown CBOs expressed concerns over the threat to affordable housing units. In the words of one interviewee, “Chinatown has had affordable senior housing since the 1980s, but many of the affordable units have expired or are set to expire, and some affordable senior units are converting into market rate units” (Chinatown Community for Equitable Development 2015). Between 2007 and 2014, at least 14 Ellis Act residential evictions have occurred in the census tracts within a half mile of the transit station,[6] but local community organizations believe that the number of tenants displaced is higher than what the secondary data indicate, because of landlord harassment and other factors. According to one CBO representative, “Tenants are often offered buyouts to move out of their units” (Chinatown Community for Equitable Development 2015). CBOs believe that real estate developers see an opportunity to attract higher returns on their developments by replacing commercial land uses with market-rate mixed-use residential developments, which may have negative effects for a neighborhood like Chinatown, which has many low-income renters (Chinatown Community for Equitable Development 2015). Similarly, a city staff member argued that the new "infrastructure investments are attracting developers to the area interested in turning existing commercial and industrial properties into housing" (Los Angeles City Planning Department 2015).

Field surveys and street-level observations revealed some signs of commercial gentrification in Chinatown. Most of Chinatown's commercial buildings are occupied by older, established businesses. Change is not very visible along the main commercial streets of Chinatown, where one does not see new "hipster" establishments, bars, or cafés. However, a few art galleries and upscale boutiques have appeared in small retail spaces inside commercial plazas, such as Mandarin Plaza, owned by a single property owner (Fong 2017).

Interviews revealed some facets of commercial gentrification that had not been uncovered by the analysis of secondary data or the street-level observations. CBO representatives in the area expressed concerns that a growing number of new neighborhood businesses are not catering to the needs of long-term Chinatown residents but instead target a new and younger clientele. As one stated, "New development and incoming retailers are catering to new and younger residents and more affluent commuters" (Southeast Asian Community Alliance 2015). CBOs also reported the flipping of commercial properties (Chinatown Community for Equitable Development 2015), and business turnover and displacement that have led some long-term residents to leave because "they no longer feel a cultural and economic connection to Chinatown" (Southeast Asian Community Alliance 2015).

Thus, secondary data in Chinatown showed only limited residential gentrification at the outskirts of the neighborhood and were not conclusive about commercial gentrification. Complementing the secondary data with information from visual observations and interviews helped yield a richer and more complete picture of change in the neighborhood.

Conclusion

Analyzing different types of data enriches neighborhood narratives of change. We found that gentrification is a dynamic and fluid process that cannot be captured easily by one source of data. Take, for example, rent burden. Simple statistics cannot easily capture change because the initial wave of higher-income residents, who benefit from existing rent levels, could keep the rent-to-income ratio low or even lower it further. Existing leases may temporarily guarantee low rents for low-income residents—but will eventually expire. At the same time, existing census information is not sufficient, because it does not depict fine-grained changes, such as the number of individuals displaced. Even eviction data only represent the tip of the iceberg in terms of displacement. Given this complexity and disparate trajectories, it is important to have multiple indicators of gentrification and displacement.

The employment of a mixed-methods approach offers a richer picture of neighborhood change and helps us understand the strengths and limitations of the different methods and data sources. Many of the limitations highlighted with both quantitative and qualitative approaches—issues related to aggregate data, short time frames, unclear motivation, indeterminate significance, and lack of comparability or generalizability—can be addressed via triangulation.

More specifically, secondary data with sociodemographic and housing indicators can give us a longitudinal view, showing how these indicators have changed over the years, as well as a cross-sectional view, showing how they compare to those of other (control) neighborhoods or the city or county as a whole. But secondary data cannot always tell us what is on the ground, such as new or unpermitted renovations that community groups or observers can see but are not reflected in the assessor's data, different merchandise or increased prices that some businesses may adopt in response to a new clientele, or the property speculation occurring in anticipation of gentrification yet to begin. Thus, secondary data may not always give a fully accurate picture of changes in the built environment and current land uses. Additionally, we should not assume that secondary data are always precise, and we should carefully evaluate such data for anomalies and other problems (e.g., discrepancies in housing unit counts) before using them in models.

On the other hand, systematic field observations can provide a wealth of information about a neighborhood's urban form and social activities at the parcel and street levels and can help "groundtruth" secondary data. Such observations can reveal the presence or absence of visual signs of possible gentrification in some neighborhoods, such as the existence of new "hipster" establishments and new buildings that appear to be more upscale than their surroundings. Field observations, however, cannot capture information such as job counts, numerical changes in neighborhood demographics, or real estate transactions such as changes in ownership, which are better identified by secondary data. Unless field observations are compared with data sources that supply information about the past physical and social context of the neighborhood (e.g., street-level photographs, aerial photographs of previous years), they can only give a static view of what exists in a neighborhood. Additionally, case study research that focuses on a specific neighborhood at one point in time does not offer opportunities for comparison and control with other neighborhoods cross-sectionally and longitudinally, and thus cannot explain what may have triggered neighborhood change. Collection of primary data is also tedious and time consuming, and for this reason cannot easily cover large geographic areas. Lastly, visual observations may at times be inadequate for distinguishing between housing types, such as condos versus apartment complexes, and may require further verification. Field observations require significant training of the individuals undertaking them, as well as the preparation of detailed guidelines and survey templates for different assessments of the urban form to avoid inconsistencies among the different field surveyors.

Interviews with knowledgeable local stakeholders (residents, CBOs, planners) can help uncover information about neighborhood change that is not available in secondary data or readily visible from field observations. Those on the ground are often knowledgeable about changes that are not captured by other data sources. Thus, while our interviewees did not refer to statistical data, they gave anecdotal evidence of, for example, what is happening at particular Chinatown stores that seem to target new incoming residents or tourists, or the closure of some long-standing anchor establishments, such as the New Great Wall bookstore, a long-standing Chinese bookstore in the neighborhood, or the deliberate eviction of Latino residents in Concord in order to prepare an apartment building for the upscale tenants to arrive in subsequent decades. Data from interviews, however, are subjective and may reflect the biases, priorities, advocacy, and broader concerns of the observer, interviewer, and interviewees. Therefore, such data also need to be triangulated and solicited from different groups that may have different or even opposing views.

In both the Chinatown and Concord cases, long-term residents and business owners experience displacement pressures that are not new. Both neighborhoods are home to communities that historically have experienced exclusion from the mainstream. Now, forces of structural racism—even if subtle—interact with market dynamics to accelerate the displacement of individuals from these communities. The ugly face of racism surfaced via interviews, and even neighborhood observation, while secondary data fell short in uncovering it.

Neighborhoods evolve and change over time in complex and different ways. We often encounter discrepancies in indicators and beliefs about the nature and extent of neighborhood change. This is because of the complexity of identifying, measuring, and characterizing change but also because of the existence of different information sets and even the inaccuracy of some data sources. For all these reasons, the utilization of multiple indicators and data sources that involve both secondary data and empirical work, such as field observations and stakeholder interviews, complement each other and can give a more complete picture of neighborhood change brought about by gentrification and displacement. Only through such triangulation will we make the deep inequities at work—or TOD's dark side—come to light.

5 Transit, Race, and Neighborhood Change in Los Angeles and San Francisco

> As capital and people were set into motion in Oakland and the East Bay in these years, a stunning fact of American political economy was always evident: restoring property values was easier, and a higher priority, than sustaining human communities. Powerful new institutions like BART ordered space in particular ways, but their actions were bound within a longer history of already ordered spaces.
> —R. O. Self, *American Babylon: Race and the Struggle for Postwar Oakland*, 136

When transit systems are added to an existing neighborhood, a struggle often ensues. Even when transit reuses existing rail right-of-way (as is often the case in both San Francisco and Los Angeles), the very construction of the line and its stations can disrupt local activity and displace residents. Then, the new availability of transit can change a neighborhood's identity and transform property values. The residents, however, may have had little say in how the transit station's location was decided—or what would happen afterward.

The vast literature on neighborhood change pays little attention to the role of infrastructure, particularly transit, in reshaping areas—and who lives in them. Economists explain how housing markets and preferences function, sociologists focus on how residential sorting and segregation occur, and political scientists pinpoint how political economy shapes the distribution of resources across neighborhoods, but few mention the transit facilities that shape daily activity and access to city amenities and economic opportunities. Transportation planners may identify how investments are capitalized into land use, but they often neglect the impacts these investments have on people.

Thus, this chapter investigates how the development of transit systems intersects with neighborhood trajectories to reshape the lives of residents, with a particular focus on that "longer history of already ordered spaces" that affects both the decision to locate transit and the local reaction to it.

Specifically, after outlining the evolution of transit in Los Angeles and the San Francisco Bay Area, we examine the role of transit in attracting new development, and its possible link with gentrification and exclusion, reduction of housing affordability, displacement of residents, and racial inequity.

Overall, the new accessibility that transit brings to a neighborhood transforms its built environment and results in significant shifts of neighborhood population. In particular, when new transit is located in low-income communities of color, it tends to attract in-movers who are more affluent and transforms the area. The devil is in the details, however: the impacts of new transit lines vary depending on their location within the region and the specific local contexts for each station. But let's start the story from its beginning and detail how railway networks were first established in San Francisco and Los Angeles.

The Context for Change: The Development of Transit Systems in San Francisco and Los Angeles

Much of San Francisco's current rail network—the San Francisco Municipal Railway (MUNI), Bay Area Rapid Transit (BART), Caltrain, and the Santa Clara Valley Transportation Authority (VTA)—follows rights-of-way established over a century ago in the region's streetcar, commuter rail, and rail freight systems. In Los Angeles, many transit lines were embedded in existing rights-of-way of older railway lines or were sometimes built in the middle of freeways. This allowed transit agencies in the two regions to minimize land acquisition and construction costs as well as avoid the political perils of acquiring property and introducing the nuisances of a new train system to existing neighborhoods. Thus, many transit lines and stations are located far away from affluent neighborhoods, instead being sited adjacent to industrial areas or working-class neighborhoods. In the rare cases where new rail systems run through high-income areas, they often tend to be located underground.

This locational pattern has introduced tension in the low-income communities where new transit stations are located, generally exacerbating existing income and racial inequalities. For some neighborhoods formerly isolated by freeways or with locations adjacent to environmental hazards, the new investment comes as a shock. Previously ignored because of disinvestment, an aging housing stock, and declining commercial areas, these neighborhoods may quickly gain new residents seeking the accessibility of the new transit. Other low-income neighborhoods, located nearer to downtown, were always relatively accessible. For these areas, the influx of new residents and capital has been more gradual over a long period of time, but the new transit station may accelerate the pace of change. In both cases, residents who are not property owners may not be able to stay in their neighborhood—and this is disproportionately the case for communities of color. The following sections examine how each region planned and constructed its transit lines.

San Francisco: Gradual Expansion of Fragmented Systems

The San Francisco Bay Area is home to four different rail transit systems, each developed in a different era and different type of community (figure 5.1). The city of San Francisco largely grew up around MUNI rail lines, and since these station areas are now fully built out, development that is more recent has tended to locate on vacant land in neighborhoods that had not formerly been transit accessible. In contrast, Caltrain is a revitalized commuter line that runs through low-density, predominantly white (at least originally) neighborhoods, to which it is able to attract significant new development (as described in the Redwood City case in chapter 6). Though the BART system was meant to reshape the metropolitan structure, including many communities of color, with dense new subcenters, its impact on land use has been relatively modest, in part because of the lack of supportive local policies (Cervero and Landis 1997). Learning from this experience, the VTA has made a more concerted effort to support joint development around its rail stations, which are located in both white and Latino neighborhoods. The following discussion describes each system in turn, from oldest to newest.

MUNI has the longest history of any transit system in the Bay Area, because it grew out of the horse-drawn omnibus lines, which dated from 1851 (San Francisco Municipal Transportation Agency n.d.). By 1875, there were already eight omnibus companies, with 80 miles of rail, competing for space with each other and with San Francisco's geography (Callwell 1999). Although cable cars were popular for a brief period at the end of the nineteenth century, streetcar lines proliferated under the new San Francisco Municipal Railway, with its 304 miles of track in 1921 following routes dictated by history as well as by the location of power plants (O'Shaughnessy

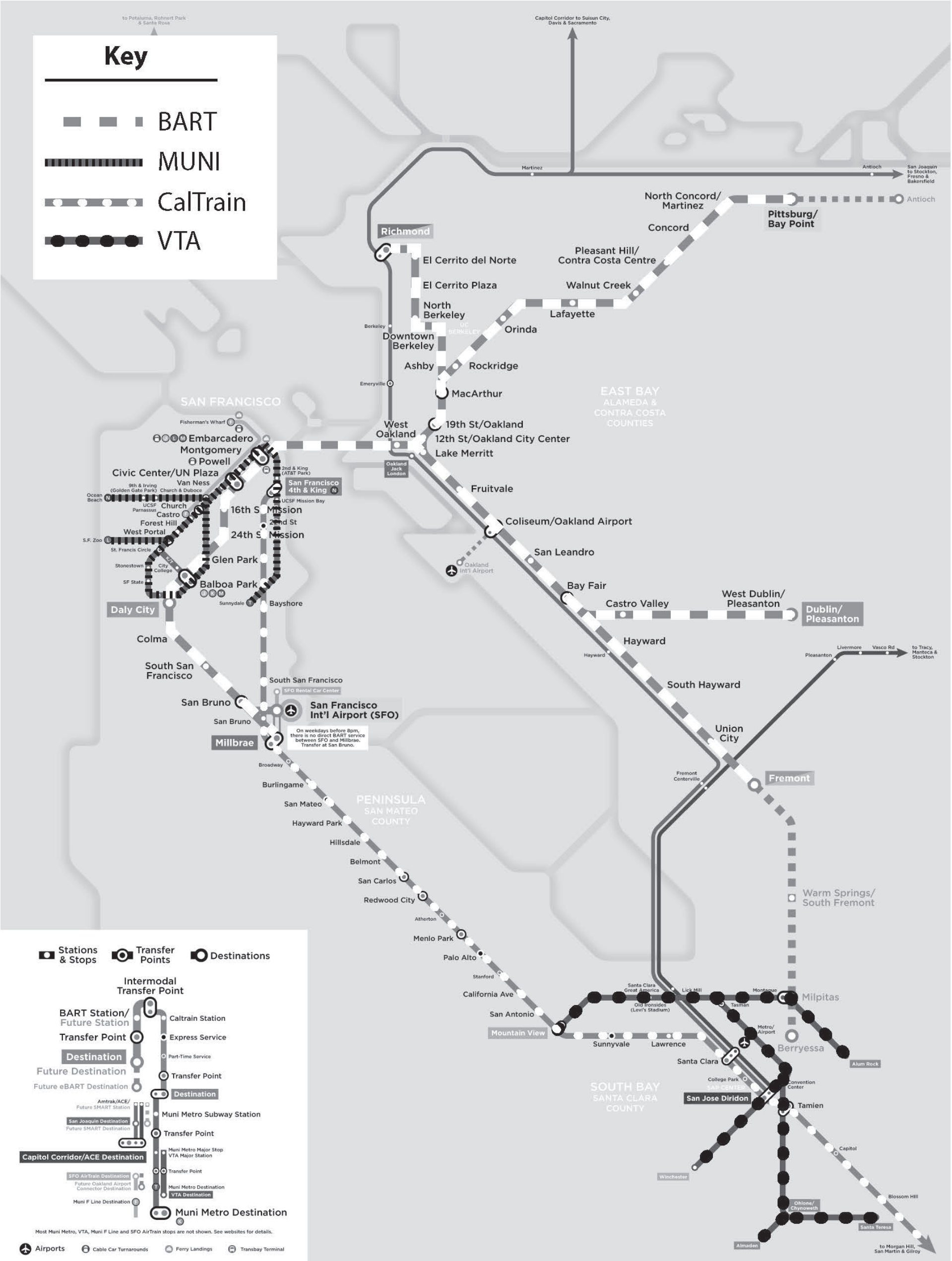

Key
BART
MUNI
CalTrain
VTA
Capitol Corridor to Suisun City, Davis & Sacramento
Martinez
Antioch
San Joaquin to Stockton, Fresno & Bakersfield
North Concord/ Martinez
Pittsburg/ Bay Point
Antioch
Concord
Richmond
Pleasant Hill/ Contra Costa Centre
El Cerrito del Norte
El Cerrito Plaza
Walnut Creek
North Berkeley
Lafayette
UC Berkeley
Berkeley
Downtown Berkeley
Orinda
Ashby
Rockridge
Emeryville
MacArthur
EAST BAY
ALAMEDA & CONTRA COSTA COUNTIES
SAN FRANCISCO
Fisherman's Wharf
West Oakland
19th St/Oakland
Embarcadero
12th St/Oakland City Center
Montgomery
Lake Merritt
Powell
Oakland Jack London
Civic Center/UN Plaza
2nd & King (AT&T Park)
Van Ness
San Francisco 4th & King
9th & Irving (Golden Gate Park)
Church & Duboce
Fruitvale
Ocean Beach
UCSF Mission Bay
UCSF Parnassus
Church
16th St Mission
Castro
22nd St
Coliseum/Oakland Airport
Forest Hill
West Portal
24th St Mission
S.F. Zoo
St. Francis Circle
San Leandro
Glen Park
Oakland Int'l Airport
Stonestown
City College
Balboa Park
SF State
Bay Fair
Sunnydale
Bayshore
Castro Valley
West Dublin/ Pleasanton
Dublin/ Pleasanton
Daly City
Colma
Hayward
Hayward
Livermore
Vasco Rd
to Tracy, Manteca & Stockton
Pleasanton
South San Francisco
South Hayward
South San Francisco
SFO Rental Car Center
San Bruno
San Francisco Int'l Airport (SFO)
San Bruno
On weekdays before 8pm, there is no direct BART service between SFO and Millbrae. Transfer at San Bruno.
Millbrae
Union City
Broadway
Fremont Centerville
Fremont
Burlingame
San Mateo
PENINSULA
SAN MATEO COUNTY
Hayward Park
Hillsdale
Belmont
San Carlos
Warm Springs/ South Fremont
Redwood City
Atherton
Menlo Park
Palo Alto
Stanford
Santa Clara Great America
Lick Mill
Montague
Milpitas
California Ave
Old Ironsides (Levi's Stadium)
Tasman
San Antonio
Mountain View
Metro/ Airport
Sunnyvale
Lawrence
Berryessa
Alum Rock
Santa Clara
College Park
SAP Center
Convention Center
SOUTH BAY
SANTA CLARA COUNTY
San Jose Diridon
Tamien
Capitol
Winchester
Blossom Hill
Ohlone/ Chynoweth
Santa Teresa
Almaden
to Morgan Hill, San Martin & Gilroy
Stations & Stops
Transfer Points
Destinations
Intermodal Transfer Point
BART Station/ Future Station
Caltrain Station
Transfer Point
Express Service
Destination
Part-Time Service
Future Destination
Transfer Point
Future eBART Destination
Destination
Amtrak/ACE/ Future SMART Station
Muni Metro Subway Station
San Joaquin Destination
Future SMART Destination
Transfer Point
Capitol Corridor/ACE Destination
Muni Metro Major Stop VTA Major Station
SFO AirTrain Destination
Future Oakland Airport Connector Destination
Transfer Point
Muni Metro Destination
VTA Destination
Muni F Line Destination
Muni Metro Destination
Most Muni Metro, VTA, Muni F Line and SFO AirTrain stops are not shown. See websites for details.
Airports
Cable Car Turnarounds
Ferry Landings
Transbay Terminal

Figure 5.1

San Francisco Bay Area rail transit. Adapted by the authors from Steve Boland, Calurbanist.com.

1921). San Francisco's downtown and neighborhoods thus developed and matured around these train lines, and several hilly neighborhoods were untouched because the MUNI ran tunnels underneath them. Despite the mass conversion of streetcar lines to bus service after World War II, many of the MUNI lines were spared because of the agency's five tunnels and exclusive rights-of-way that could not be reutilized by buses; other lines were converted to trolley buses rather than motor bus lines because of the availability of free electricity (Boorse 2001; Callwell 1999). Development of new lines also stalled for several decades during midcentury because of anticipation of the development of BART stations—some of which never materialized (Callwell 1999). Expansion resumed in the first decade of the twenty-first century, with the construction of a new line to Bayview–Hunter's Point and a new tunnel to Chinatown. By 2017, MUNI had the third-highest ridership of any light rail system in the United States (after Boston and Los Angeles), with 52 million trips and 142 million passenger miles (American Public Transit Association 2017).

Caltrain originated from the commuter railroad originally opened in 1863 to connect San Jose to San Francisco, supported in part by bond issues in three counties (Amin 2017). Most of the route lay within a few blocks of the historic El Camino Real, and its planning unleashed a wave of speculation; the owners of land around the stations profited as developers began subdividing and building (Duncan 2005). Apart from new tunnels, there were no changes to the alignment of the 47-mile route after 1935 (Miller 1987). The system's ridership peaked in 1954, but by then employers had already begun building farther out on greenfield land, and highway capacity had expanded significantly (Amin 2017). Ridership began a rapid decline, bottoming out in 1977, and the line became deeply unprofitable (Amin 2017). The state department of transportation, Caltrans, took over service as it recovered, until the Peninsula Corridor Joint Powers Board took the reins in 1987. Subsequent changes included an extension to the city of Gilroy and the introduction of Baby Bullet express service, which improved travel times between the three key stations of San Francisco, Palo Alto, and Mountain View, which serve half of all its passengers. Caltrain ridership is the seventh highest among US commuter rail systems, with 18.4 million trips and 488 million passenger miles (American Public Transit Association 2017). Nine stations along the Caltrain route have committed to guiding the surrounding development via a TOD plan (Amin 2017).

In contrast, the regional BART system was not even conceptualized until a joint Army-Navy study in 1948 (Healy 2016). The vision for BART was as a regional hub-and-spoke system with San Francisco and, to a lesser extent, Oakland as the hubs. Though it was originally planned for six counties, planners dropped Marin County because of local resident opposition to paying for the cost of a new tube under the bay; Santa Clara and San Mateo counties also declined to join the BART District. Thus, the initially planned 123-mile system was reduced to 75 miles, and downtown San Francisco interests dominated the planning process. Even Oakland politicians struggled to impact the route, failing to win a station at Jack London Square because it would have added to the commuting time to downtown San Francisco (Self 2005). Thus, BART was quickly perceived as a system to accommodate the commutes of white middle- and upper-class suburbanites, reinforcing the "white noose" around the region's diverse core communities (Self 2005, 195). BART's creators also saw the system as a way to help minorities exit from their inner-city neighborhoods. As BART general manager B. R. Stokes stated, "The non-white clearly needs mobility, the freedom to move out of ghetto life on a daily basis; for others, on a lifetime basis" (quoted in Self 2005, 195).

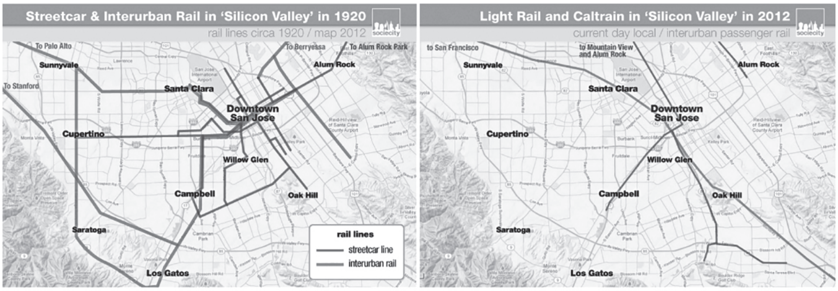
Planners designed BART to run through tunnels through most of San Francisco and reutilized existing rights-of-way (particularly the old Key Route streetcar line) in Alameda and Contra Costa counties where possible. However, many suburban municipalities resisted the route alignment, and ultimately 15 of 33 planned stations were relocated (Healy 2016). Although Berkeley residents resisted the route through their downtown, they voted to tax themselves in order to build a tunnel. The predominantly black West Oakland residents were not as lucky. Despite dramatic impacts to the neighborhood from urban renewal projects and highways, West Oakland was not able to stop BART from using eminent domain to destroy its black business corridor (7th Street) at the heart of the city (Healy 2016).

Thus, when BART opened in 1973, the system featured a variety of stations: many underground, some through built-up areas, and others on greenfields. As discussed in chapter 2, studies of BART's impact on development found that it was modest at best (Dyett et al. 1979; Cervero and Landis 1997). Where land use changes had occurred, primarily in downtown San Francisco, downtown Oakland, and a handful of suburban stations, it was because of proactive redevelopment agencies, supportive zoning, and a lack of local resident opposition (Cervero and Landis 1997). The tepid pace of TOD has gradually persuaded BART to enact more joint development policies,[1] for example its Resolution 3434 (in 2001) mandating the adoption of minimum residential densities around greenfield stations. BART is continuing to expand within Santa Clara, Alameda, and Contra Costa counties. Initial ridership was higher than projections, and the system logged 137 million trips over 1.845 billion passenger miles in 2017, the most of all heavy rail systems in the state.

Perhaps building on BART's momentum, the VTA in Santa Clara County began to take shape after county voters approved a 1972 ballot measure establishing a new transit district (Santa Clara Valley Transportation Authority 2005). Shortly thereafter, the newly funded transit agency bought out three struggling privately operated local bus lines. Once voters approved a half-cent sales tax in 1976, planning for a new light rail system finally began to move ahead, and the system was completed in 1986. Even though streetcars had crisscrossed the region in the early twentieth century, the light rail lines followed just a few routes (figure 5.2). In 1988, a two-mile stretch of light rail opened in San Jose, and the full 21-mile system began service in 1991. Subsequent expansions, funded by a 30-year extension of the 1996 tax passed in 2000, reached north to Mountain View, east to Milpitas, and south to Campbell. Planners paid little attention to developing supportive land uses until 1995, when the VTA became the county's Congestion Management Agency and gained responsibility for the integration of multimodal transportation with land use; the VTA began a transit-oriented development program shortly thereafter. In 2016, the system logged 32 million passenger trips, covering 190 million miles.

TODs in the San Francisco Bay Area

The construction of new transit lines and stations presents an opportunity for TOD. Building walkable neighborhoods around transit both facilitates access to the station and potentially boosts transit ridership. New transit lines present opportunities for value capture strategies as well (i.e., recapturing via taxation or other methods some of the new land value created by the transit investment). In California in particular, many tools have emerged to promote TOD, including joint development on agency land, underwriting land costs, help with land assembly, financial incentives, streamlined planning processes, and sharing parking (Cervero 2003).


Streetcar & Interurban Rail in 'Silicon Valley' in 1920
rail lines circa 1920 / map 2012
sociecity
To Palo Alto
To Berryessa
To Alum Rock Park
Sunnyvale
Alum Rock
To Stanford
Santa Clara
Downtown San Jose
Cupertino
Willow Glen
Campbell
Oak Hill
Saratoga
Los Gatos
rail lines
streetcar line
interurban rail
Light Rail and Caltrain in 'Silicon Valley' in 2012
current day local / interurban passenger rail
sociecity
to San Francisco
to Mountain View and Alum Rock
Sunnyvale
Alum Rock
Santa Clara
Downtown San Jose
Cupertino
Willow Glen
Campbell
Oak Hill
Saratoga
Los Gatos

1920 2012

Figure 5.2
Fixed rail then and now in San Jose and Silicon Valley.
Source: http://sociecity.org/post/2012/death-and-life-of-american-streetcar/, ShareAlike 4.0 International (CC BY-SA 4.0).

When planning new transit systems, most transit agencies now propose, or at least mention, TOD near stations (California Department of Transportation 2011), but this was not always the case. As recently as 1990, there were few plans and mechanisms in place to build TOD in the state, and almost no examples to point to.

In the Bay Area, BART might well have served as a TOD model for the other transit systems, given its regional extent, but at least early on, little growth, particularly high-density residential development, materialized around BART stations (Webber 1976; Dyett et al.1979). New office space typically outcompeted multifamily development around BART stations: from 1965 to 1993, the built square footage of office space increased from 28 percent to 46 percent, while the multifamily share declined from 23 percent to 18 percent (Cervero and Landis 1997). In general, the outlying suburbs were more successful at spurring residential development, benefiting from the availability of local land, the lack of opposition by local residents, and the proactive efforts of redevelopment authorities using a variety of tools to attract developers (Cervero and Landis 1997).

The challenges of developing housing around BART gave rise to renewed efforts to encourage development, led by the regional agencies, the Association of Bay Area Governments and the Metropolitan Transportation Commission (MTC), which in turn were pushed by civic organizations such as TransForm and San Francisco Planning and Urban Research (SPUR).[2] Nevertheless, even as TOD planning began in earnest in the 1990s with MTC's

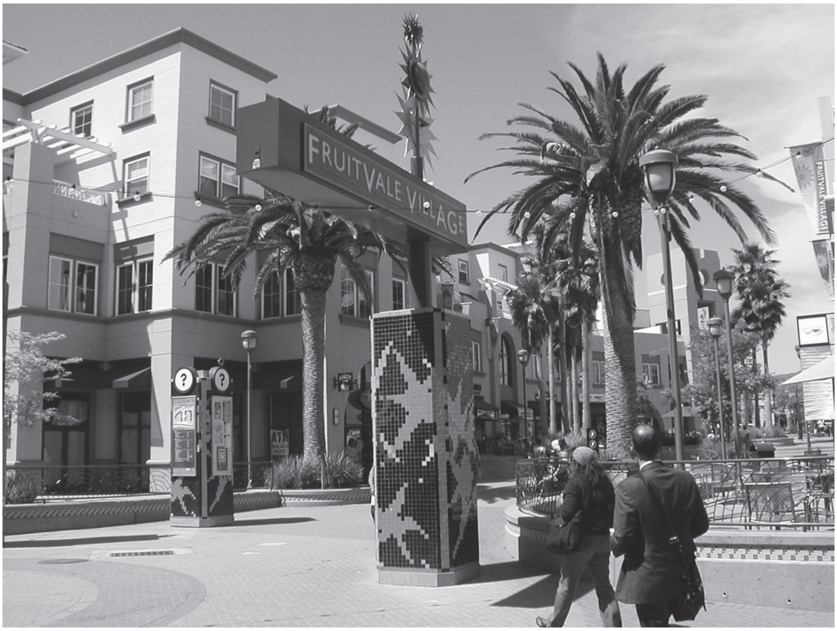


Figure 5.3
TOD at Fruitvale.
Source: Photo by Eric Fredericks, https://www.flickr.com/photos/neighborhoods/3158131357.

Transportation for Livable Communities program, it became apparent that only a small amount of affordable housing would be built around transit, despite increasing need and income segregation in the region (Chapple, Hickey, and Rao 2007). Even as TODs such as Fruitvale (figure 5.3) won kudos for revitalizing low-income communities, questions arose about their potential for gentrification and displacement: Fruitvale offered just 10 subsidized housing units.

By 2007, seeing little progress, a group of regional nonprofits (TransForm, Urban Habitat, and the Greenbelt Alliance) formed the Great Communities Collaborative, with the explicit goal of supporting equitable TOD. Although the extent to which their effort directly led to the construction of any affordable housing is debatable, stakeholders credit it with raising awareness and building political support for TOD (ICF International 2014).

As of 2018, there are almost 20 TODs constructed in the Bay Area, with dozens more under way or planned. Despite the long history of MUNI and

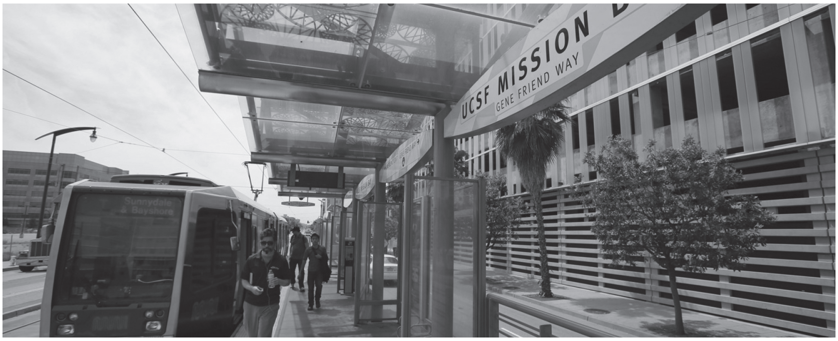


Figure 5.4
Mission Bay.
Source: http://sfpublicworks.org/project/third-street-light-rail, San Francisco Public Works Department.

Caltrain, both systems did not develop their first TODs until the early years of the new millennium. MUNI's light rail extension along Third Street created an opportunity for the development of the 303-acre site that became the University of California San Francisco's Mission Bay research campus, along with more than 1,000 housing units (figure 5.4); the Third Street Line also spurred a couple of small housing developments in the Bayview neighborhood. Several large TODs, including Treasure Island, remain in the planning phase.

Of Caltrain's 32 stations, only a handful already have significant commercial or industrial development that would preclude new TOD (HNTB Corporation, Strategic Economics, and Hexagon Transportation Consultants 2007). Caltrain's earlier TODs included Bay Meadows in San Mateo (built in 2008), with 1,100 units and over one million square feet of office space, and The Crossings in Mountain View (built in 1994), a mixed-use neighborhood with 540 units of housing. A half dozen other TODs have either been completed more recently or are under construction. Most stations still have constraints that hinder TOD construction, however, such as challenges with land acquisition or assembly, barriers in zoning ordinances, and poor connectivity between the station and the local community (HNTB Corporation, Strategic Economics, and Hexagon Transportation Consultants 2007).

BART has completed 12 developments, with almost 2,000 housing units and 200,000 square feet of commercial space, with several more in progress

Table 5.1
BART TOD projects completed and in progress

Status	Station	Total units	Affordable units	Percentage affordable	Office (SF)	Retail (SF)
Completed	Castro Valley	96	96	100		
	Fruitvale Phase I	47	10	21	27,000	37,000
	Pleasant Hill Phase I	422	84	20		35,590
	Hayward	170	0	0		
	Ashby	0	0	0	80,000	
	Richmond Phase I	132	66	50		9,000
	MacArthur Phase I	90	90	100		
	San Leandro Phase I	115	115	100	5,000	1,000
	West Dublin	309	0	0		
	East Dublin	240	0	0		
	South Hayward Phase I	354	152	43		
	Total completed	**1975**	**613**	**31**	**112,000**	**82,590**
Completed / planned	MacArthur Phase II	787	56	7		39,100
	San Leandro Phase II	85	85	100		
	Walnut Creek	596	0	0		
	Coliseum Phase I	110	55	50		
	West Pleasanton	0	0	0	410,000	
	Pleasant Hill Block C	200	0	0		
	Fruitvale Phase IIA	94	92	98		
	Total under construction and planned	**1872**	**288**	**15**	**410,000**	**39,100**
	Grand total	**3847**	**901**	**23**	**522,000**	**121,690**

Source: https://www.bart.gov/about/business/tod.

(table 5.1). Most influential have been the Pleasant Hill and Fruitvale TODs. Pleasant Hill grew out of a planning process from the 1980s, making it one of the earliest examples of suburban TOD in the United States (California Department of Transportation 2002). Key to its success were the availability of land (in the form of a surface parking lot) and the reduction of parking requirements for office, retail, and housing. The Fruitvale Transit Village also stands out for its treatment of parking, notably the redevelopment and replacement of surface parking by a new parking structure and the mixed-use development (housing, office, retail, library, and health clinic). The project also revealed the complexity of TOD finance: its developer, the

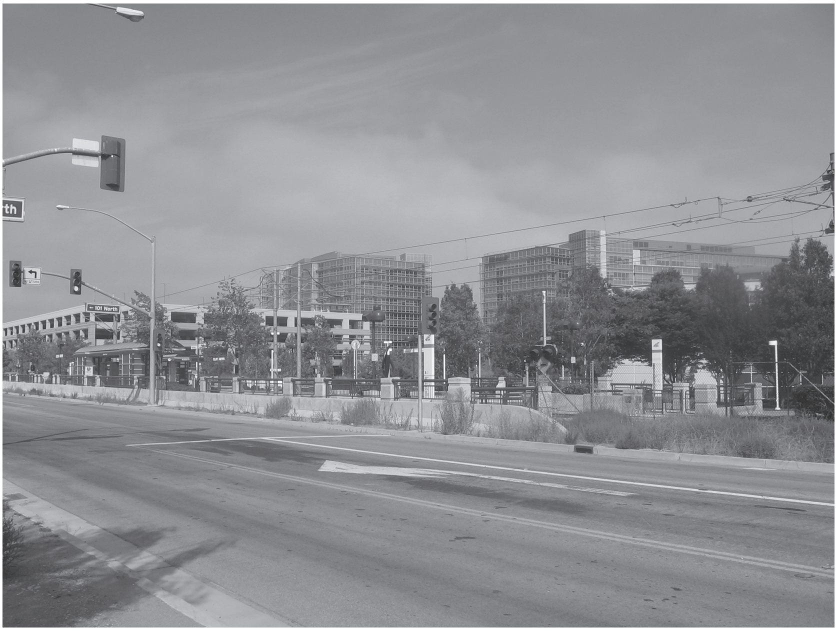


Figure 5.5
Moffett Park.
Source: Photo by Pedro Xing, https://commons.wikimedia.org/wiki/File:Moffett_Park_VTA_1084_01.JPG, Wikimedia Commons.

Unity Council (a community development corporation with Latino roots), had to cobble together more than 20 sources of funding, each with unique requirements (California Department of Transportation 2002).

Although the VTA transit-oriented development program was a relative latecomer to the scene, it has made up for time through smart TOD design that promotes transit and pedestrian use (California Department of Transportation 2011). The VTA not only engages in station area planning and joint development but also reviews over 400 development projects annually to ensure integration with transit (Santa Clara Valley Transportation Authority n.d.). Still, some of its signature successes, such as Moffett Park in Sunnyvale, remain dominated by parking (figure 5.5).

As described further in chapter 10, MTC began implementing a TOD policy in earnest after 2000, which creates a framework for focusing future regional growth around transit stations. The Regional Transit Expansion Program (referred to as Resolution 3434) required that expansion projects meet a minimum amount of housing development within a half mile of the station along the corridors to ensure future growth in transit ridership, to make the investments cost-effective, and to ease the Bay Area's chronic housing shortage, among other goals. Although these TODs are mandated to include neither affordable housing nor a minimum threshold for jobs, other programs, such as station area planning grants, are gradually evolving to address these issues.

TODs in greenfield station areas face few obstacles. In contrast, as the slow progress of TOD approval and construction suggests, local opposition is a barrier in infill locations, where existing communities do not always welcome the new development. In some cases, simple NIMBYism is at fault, but in others, the perception is that TODs will revive long-standing patterns of segregation and will not do enough to address the needs of existing low-income communities of color. Given the lack of new affordable housing in TODs, that fear is not unfounded.

Los Angeles: The Rise, Demise, and Rise Again of Railway Transit

Los Angeles has been inscribed in the public imagination as the city of the automobile, yet decades before the automobile took hold in Southern California, railroad lines defined the region's geographic territory, polycentric urban pattern, and eventual urban sprawl. The building of streetcar lines started in the late nineteenth century, and by 1925 Los Angeles had the largest electric interurban railway system in the world (Dear 1996), serving Los Angeles, Orange, San Bernardino, and Riverside counties.

The lines were owned by wealthy tycoons, who often carved the railway tracks through lands that they owned as a way to valorize their land holdings, which were then subdivided and sold to homeowners (Wachs 1996). By the turn of the century, two major lines were crisscrossing Southern California. The Pacific Electric (PE), owned by multimillionaire Henry Huntington, ran its Big Red Cars along 1,100 miles of track. At its peak in 1924, PE was operating 2,700 trains per day. The Los Angeles Railway, also owned by Huntington, ran its Yellow Cars in the middle of city streets, connecting shorter distances from downtown to neighborhoods to the north, south, east, and west. At its peak ridership, during World War II, it operated 742 streetcars on 316 miles of track (Wachs 1996) (figure 5.6).

These streetcar lines had a tremendous impact on the urbanization patterns of the Los Angeles region, as they opened up vast new territories for

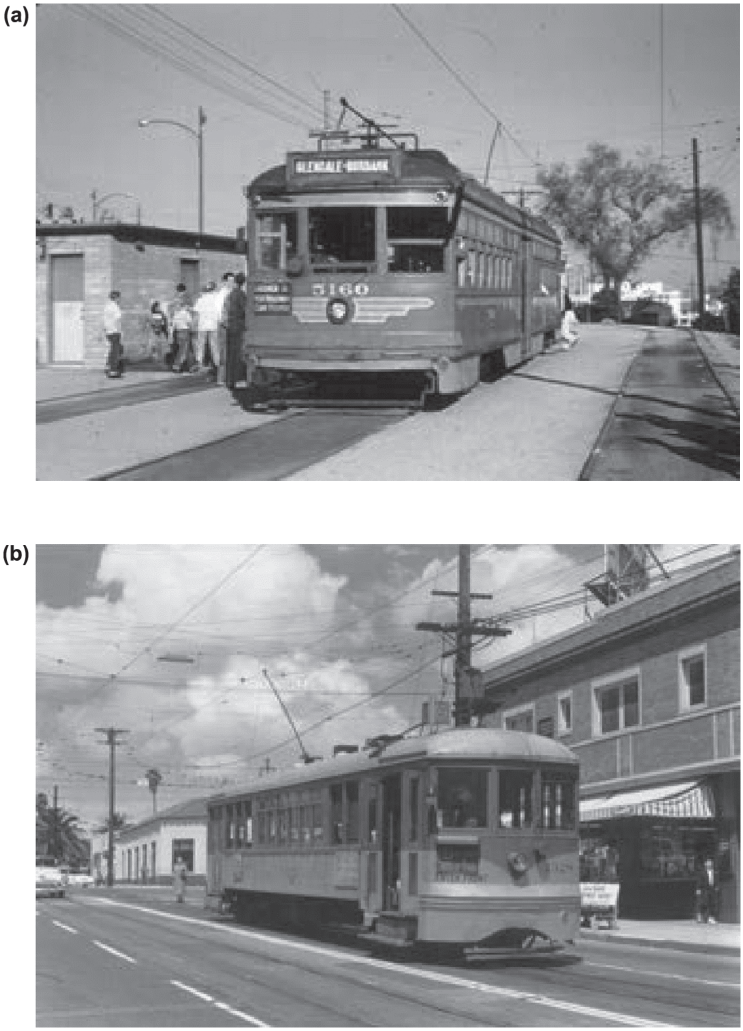

(a)
GLENDALE-BURBANK
5160
(b)

Figure 5.6
(a) Big Red Car (Pacific Electric); (b) Yellow Car in Los Angeles.
Source: http://www.flickr.com/photos/metrolibraryarchive, NonCommercial-ShareAlike 2.0 Generic (CC BY-NC-SA 2.0).

suburban development at substantial distances from downtown (figure 5.7). Between the last quarter of the nineteenth century and the first quarter of the twentieth, streetcar suburbs such as Boyle Heights, Highland Park, Glendale, Burbank, Pasadena, and Santa Monica, among others, developed, and the region's population exploded from less than 5,000 people in 1870 to over 320,000 in 1910 (Wachs 1996).

Railway transit reached its heyday in Los Angeles in 1924, when it carried 109 million passengers annually, but thereafter it quickly started to lose ground to the automobile. A popular conspiracy theory pictured General Motors as being responsible for the downfall of public transit in Los Angeles (among other cities) because the company, along with Chevron, Firestone, and Mack Truck, had purchased railway stocks and eventually converted trolley lines into bus lines (Wachs 1996). However, as some scholars have argued, the decline of transit was primarily driven by the whim of the public, who voted with their feet and increasingly abandoned transit in favor of the automobile. These changing tastes meant decreasing ridership and revenue for the transit companies, which led to service reduction and lack of maintenance (Dear 1996; Wachs 1996). At the same time, the proliferation of automobiles brought increasing traffic congestion, which made the streetcars slow, unreliable, and even prone to crashes with automobiles.

Starting in the 1930s, public policy decidedly favored the automobile, as many rail transit lines were replaced by bus lines, a trend that rapidly accelerated in the 1950s. Most of the railway lines were phased out in the 1950s; the Red Cars completed their rides in 1961, and two years later, the Yellow Cars also stopped operating. Meanwhile, a different transportation system—freeways—was being superimposed on the Los Angeles region. The first segment of the Arroyo Seco Parkway, "the first freeway of the West," was completed in 1939, connecting Pasadena to downtown Los Angeles. The substitution of one transportation system for the other was not equitable, however; it favored automobile owners, who were disproportionately wealthier and whiter. At the same time, the decline and eventual demise of reliable and effective public transportation left in the dust the largely carless low-income and minority communities that were residing in inner-city neighborhoods (Sides 2003).

Nevertheless, the many miles of freeways that were subsequently constructed in Southern California in the following decades would define the region's auto-centered urban form and transportation patterns. Martin

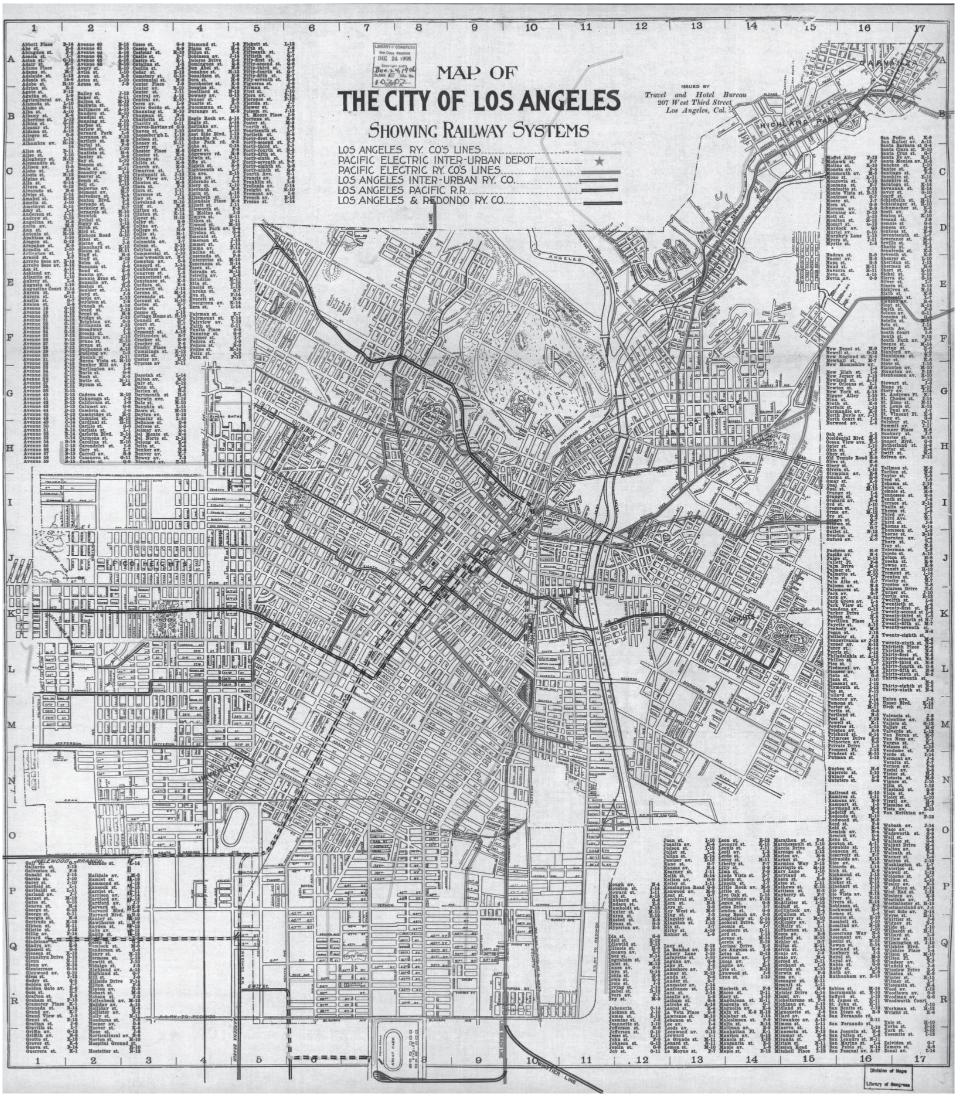

MAP OF
THE CITY OF LOS ANGELES
SHOWING RAILWAY SYSTEMS
LOS ANGELES RY. CO'S LINES
PACIFIC ELECTRIC INTER-URBAN DEPOT
PACIFIC ELECTRIC RY. CO'S LINES
LOS ANGELES INTER-URBAN RY. CO.
LOS ANGELES PACIFIC R.R.
LOS ANGELES & REDONDO RY. CO.
ISSUED BY
Travel and Hotel Bureau
207 West Third Street
Los Angeles, Cal.
LIBRARY OF CONGRESS
DEC 24 1906
Division of Maps
Library of Congress

Figure 5.7

Pacific Electric lines in Los Angeles County.

Source: Library of Congress.

Wachs (1996, 117–118) explains that the rise of the automobile "had a lot to do with images of modernity associated with the different transportation modes and also with the balance of political power within the Los Angeles area." Private cars and the GM-manufactured buses running on the then uncongested freeways epitomized modernity and were deemed by their proponents as far superior to the trains. Thus, a coalition of automobile advocates (spearheaded by the Automobile Club of Southern California), civic leaders, and suburban land developers pushed hard for a regional transportation network focused around the automobile.

Despite the dominance of the internal combustion engine, transit advocates in Los Angeles repeatedly sought to rekindle the importance of transit in the Los Angeles region, and over the next three decades (from 1950 to 1980) a number of transit projects were proposed but never materialized. A significant effort to reintroduce rail transit in Southern California was the state legislature's establishment of the LA Metropolitan Transportation Authority in 1952. This agency, which in 1964 was renamed "Southern California Rapid Transit District" (SCRTD), was given the authority to levy taxes for the construction of a railway system if the public voted to develop such a system. However, different bond measures were unsuccessful in gathering the support of the majority of the electorate. Thus, while BART trains had started crisscrossing the Bay Area in 1973, Southern California could not jump-start a railway program, despite significant federal funding for rail transit capital investments (Wachs 1996).

Public sentiment, however, would tilt toward rail (re)construction in the early 1980s. Already in 1976, the California state legislature had established a new public agency, the Los Angeles County Transportation Commission (LACTC), which had the explicit aim of identifying funding for rail transit through ballot propositions. In 1980, LACTC put on the ballot Proposition A—a half-cent sales tax mostly earmarked for the construction of the region's metro rail system—which was approved by the public. Several reasons stand behind this shift in public attitude in favor of rail, such as the availability of generous federal funding for rail projects, coupled with declining revenue for highway construction, and the realization that automobile traffic was primarily responsible for the region's worsening traffic congestion and air pollution.

In 1992, SCRTD and LACTC consolidated as one agency, the Los Angeles County Metropolitan Transportation Authority (MTA or Metro), created to plan, fund, construct, and operate public transit. The first leg of the new rail system was the Blue Line, which started operation in 1990, connecting downtown Los Angeles to Long Beach. In 1990, voters again favored another half-cent sales tax, allowing LACTC to buy the right-of-way of Southern Pacific and initiate the construction of Metrolink, Southern California's suburban commuter rail system. Over the following decades, Southern California voters would consistently pass transit-friendly propositions, adding more local funds to rail transit projects.

It should be noted that not everyone in Los Angeles welcomed the reintroduction of rail transit. Interestingly, opposition to the building of the Metro rail system came from both the wealthy and the poor. Powerful congressman Henry Waxman, representing his affluent constituents, successfully stopped the rail system from intruding into the wealthy Westside and Beverly Hills communities, under the assertion of possible risk from a methane fire, later proven false (Berkowitz 2005). At the same time, an activist organization, the Bus Riders Union, acting on behalf of lower-income bus riders, most from communities of color, sought to block the Metro project through litigation, claiming that funds for the rail system were being taken away from bus improvements, thus disadvantaging poor Los Angelenos (Soja 2010). Fueling these conflicts, in part, were deep-seated tensions dating back to the disinvestment in some of these same communities, including removal of the historic streetcar lines.

Despite these hurdles, railway construction proceeded at a rapid pace in the 1990s and the following decade, reinstalling in the Southern California terrain a mesh of six Metro lines (see table 5.2 and figure 5.8), composed of 116 miles of railway track and 119 stations, and carrying 111,458,473 riders in 2016—interestingly, about the same number as in the peak year of the original streetcar system—making it sixth in the country in both passenger trips and miles (American Public Transit Association 2017; Metro 2017). Some lines (such as the Blue Line and Expo Line) followed existing rights-of-way of earlier railway systems, while others (such as parts of the Green Line and Gold Line) were built in the middle of freeways. As Wachs argued, "From being unable to reach consensus on a single rail project prior to 1970, the LA region turned transportation politics on its head and pursued the most vigorous transit capital investment program of any metropolitan area in the country" (Wachs 1996, 138).

Table 5.2
Southern California's public transit lines

Line	Route	Beginning of operation	Type of rail
Blue Line	Downtown LA to Downtown Long Beach	1990	Light rail
Red Line	Downtown LA to N. Hollywood	1993	Heavy rail (subway)
Purple Line	Downtown to Mid-Wilshire	1993	Heavy rail (subway)
Green Line	Redondo Beach to Norwalk	1995	Light rail
Gold Line	Downtown LA to Pasadena	2003	Light rail
Gold Line Eastside Extension	Downtown to East LA	2009	Light rail
Gold Line Foothill Extension	Pasadena to Azusa	2016	Light rail
Expo Line	Downtown LA to Santa Monica	2012	Light rail
Metrolink	Operates in Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties	1992	Heavy commuter rail

Source: Compiled by authors from https://www.metro.net/news/facts-glance/.

TODs in Los Angeles

The lucrative federal incentives for rail projects, the worsening environmental conditions in the region, and the lobbying from labor unions were not the only factors driving the resurgence of rail in Los Angeles. Jonathan Richmond (2005) attributes the shift in public sentiment in favor of rail construction to the ability of its proponents to invent a powerful "myth." This capitalized on nostalgia for the past, when the Big Red Cars were the main transportation option for Los Angelenos, and a belief in an idealized future of higher density and walkable pockets around transit stations. There were also promises by politicians about development and economic benefits that transit lines would bring to their adjacent neighborhoods (Loukaitou-Sideris and Banerjee 2000).

This did not happen overnight, however, and transit-oriented development in the region initially had a slow start. Examining the areas around the Blue Line stations in 2000, 10 years after the inauguration of this first leg of the Metro rail system in Los Angeles, Loukaitou-Sideris and Banerjee (2000)

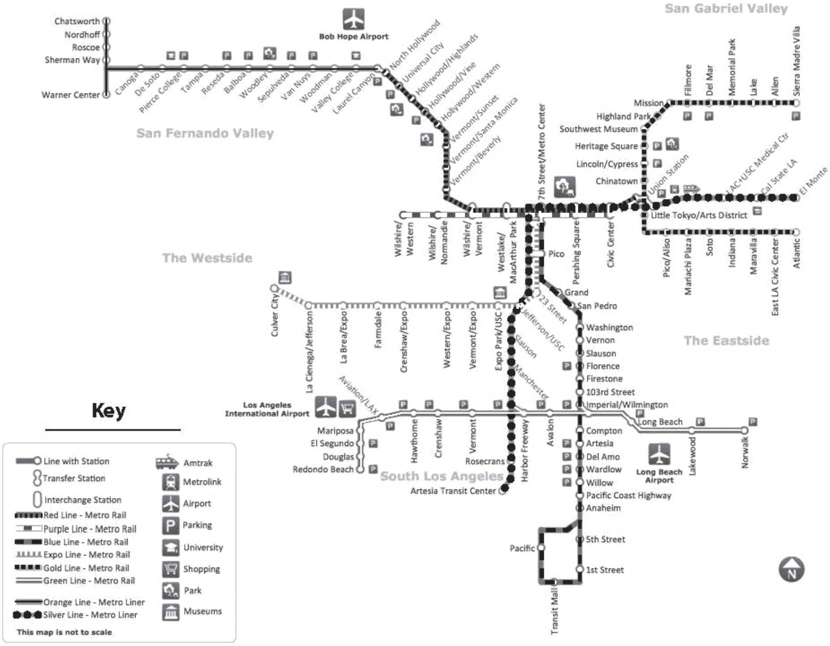

San Gabriel Valley
San Fernando Valley
The Westside
The Eastside
South Los Angeles
Bob Hope Airport
Los Angeles International Airport
Long Beach Airport
Chatsworth
Nordhoff
Roscoe
Sherman Way
Warner Center
Canoga
De Soto
Pierce College
Tampa
Reseda
Balboa
Woodley
Sepulveda
Van Nuys
Woodman
Valley College
Laurel Canyon
North Hollywood
Universal City
Hollywood/Highlands
Hollywood/Vine
Hollywood/Western
Vermont/Sunset
Vermont/Santa Monica
Vermont/Beverly
Wilshire/Western
Wilshire/Normandie
Wilshire/Vermont
Westlake/MacArthur Park
7th Street/Metro Center
Pershing Square
Civic Center
Pico
Grand
San Pedro
23 Street
Jefferson/USC
Slauson
Manchester
Mission
Highland Park
Southwest Museum
Heritage Square
Lincoln/Cypress
Chinatown
Union Station
Little Tokyo/Arts District
Fillmore
Del Mar
Memorial Park
Lake
Allen
Sierra Madre Villa
LAC+USC Medical Ctr
Cal State LA
El Monte
Pico/Aliso
Mariachi Plaza
Soto
Indiana
Maravilla
East LA Civic Center
Atlantic
Culver City
La Cienega/Jefferson
La Brea/Expo
Farmdale
Crenshaw/Expo
Western/Expo
Vermont/Expo
Expo Park/USC
Washington
Vernon
Slauson
Florence
Firestone
103rd Street
Imperial/Wilmington
Aviation/LAX
Mariposa
El Segundo
Douglas
Redondo Beach
Hawthorne
Crenshaw
Vermont
Rosecrans
Harbor Freeway
Avalon
Artesia Transit Center
Long Beach
Lakewood
Norwalk
Compton
Artesia
Del Amo
Wardlow
Willow
Pacific Coast Highway
Anaheim
5th Street
1st Street
Pacific
Transit Mall
N
Key
Line with Station
Transfer Station
Interchange Station
Red Line - Metro Rail
Purple Line - Metro Rail
Blue Line - Metro Rail
Expo Line - Metro Rail
Gold Line - Metro Rail
Green Line - Metro Rail
Orange Line - Metro Liner
Silver Line - Metro Liner
Amtrak
Metrolink
Airport
Parking
University
Shopping
Park
Museums
This map is not to scale

Figure 5.8

Metro Line network in Los Angeles County.

Source: Adapted by authors from https://media.metro.net/documents/90e3378c-e786-4cc7-8f4b-88fc15a4b3b3.pdf.

found very little development, with the exception of the downtown stations. They observed that TOD was hindered by a combination of planning, environmental, social, and economic problems, and a number of missing antecedents for development. Planning problems included lack of anticipatory planning by municipalities and jurisdictions and a lack of coordination among the different public sector agencies to instigate joint development opportunities. Environmental problems included many contaminated sites in the vicinity of stations. Much of the land along the Blue Line corridor was simply not fit for new housing or neighborhood development or was zoned for uses not compatible with TODs. Most of the Blue Line stations were located in low-income, minority neighborhoods characterized by many of the social problems that can beset inner-city communities—poverty, unemployment, and crime—which gave them a negative image for TOD investment. At the time, such neighborhoods were also lacking the political clout to voice their opinions or demand affordable housing, commercial, and mixed-use projects. Lastly, economic problems such as the inflated cost of land near stations, combined with a general lack of development incentives, frustrated TOD efforts (Loukaitou-Sideris and Banerjee 2000).

Most of these problems were not present in the case of the Red Line, which opened in 1993, connecting downtown to North Hollywood, passing through some dense urban neighborhoods, a few miles west of downtown Los Angeles. In fact, this line's impact has been considered catalytic for the revitalization and gentrification of Hollywood (Steckler and Payne 2012). By the early years of the twenty-first century, a number of TODs had appeared around Red Line stations. In particular, the vicinity of the three Red Line stations along Hollywood Boulevard (Hollywood/Highland, Hollywood/Vine, and Hollywood/Western), which were part of a redevelopment area, witnessed intense commercial and condo development (figure 5.9) triggered by joint development projects and by a Community Redevelopment Agency strategy that focused investment around stations. Some of these TODs, such as the W Hotel and Condos on Hollywood/Vine and the

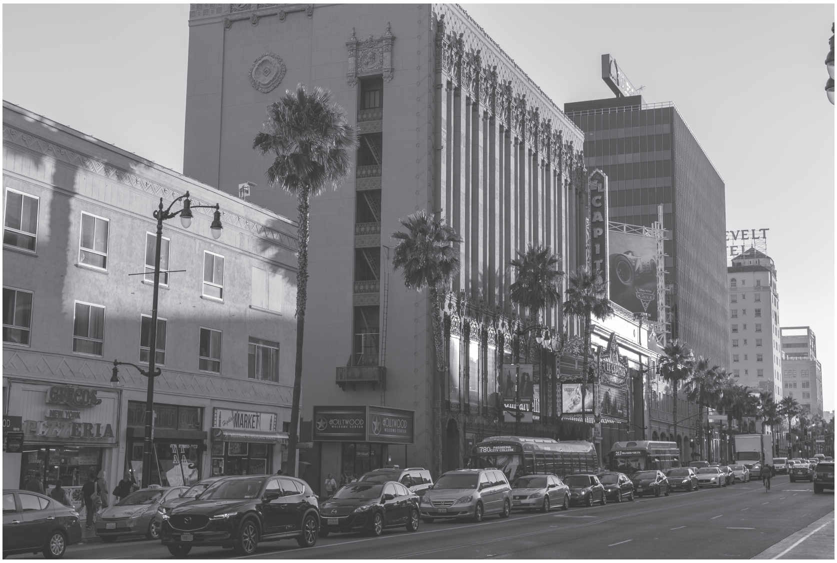


Figure 5.9
Hollywood Boulevard commercial development.
Source: Los Angeles County Metropolitan Transportation Authority.

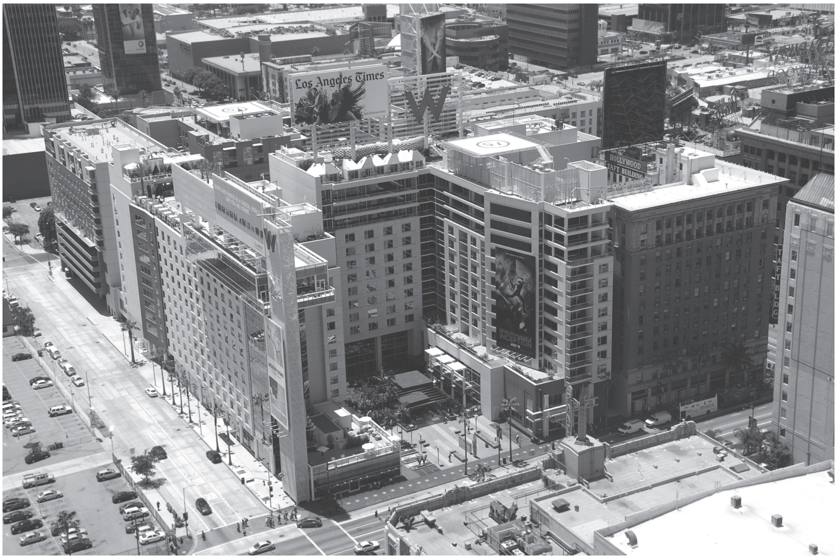


Figure 5.10

Hollywood/Vine: W Hotel and Condos.

Source: Los Angeles County Metropolitan Transportation Authority.

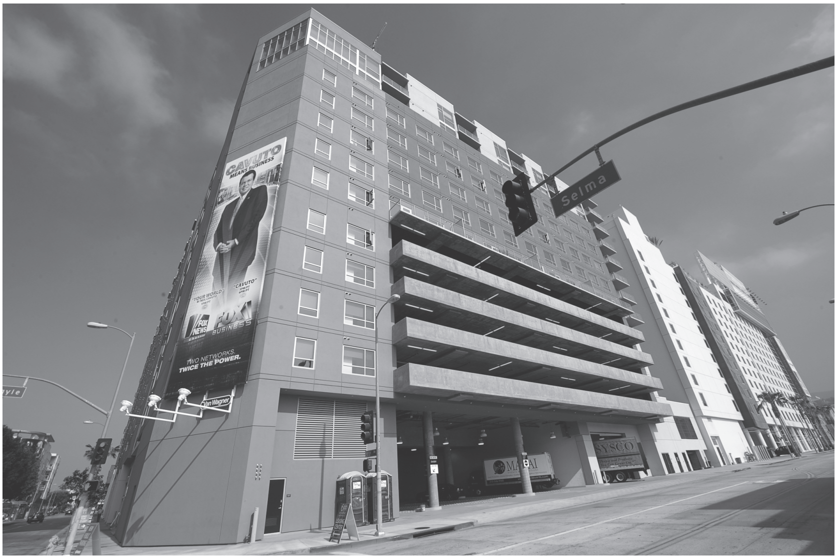


Figure 5.11

Hollywood/Vine Apartments.

Source: Los Angeles County Metropolitan Transportation Authority.

Hollywood/Vine Apartments, were built on land owned by Metro (figures 5.10 and 5.11). A 2012 report about Hollywood's comeback had this to say:

> By 2009 the demographics of Hollywood's residents had changed: they owned more cars, composed smaller households, and had higher incomes than the previous area residents. Despite all the development, the study outlines that the number of people living in central Hollywood fell by about 10 percent, while population in the city grew by about 9 percent. Per capita income rose 34 percent in Hollywood, but only 2 percent citywide. And there was an increase in car ownership despite the easy availability of high-quality transit: The area witnessed a 32 percent decrease in car-free households, while households with one car increased by 15 percent. This information has implications for ridership on the transit system. All the numbers suggest that, despite the city's extraordinary efforts to keep housing affordable, Hollywood is gentrifying. (Steckler and Payne 2012)

Similarly, the construction of the Gold Line, the first leg of which opened in 2003, connecting downtown Los Angeles to Pasadena, triggered significant development activity around its stations. By the time the Gold Line was built, many Southern California municipalities had become increasingly eager to make TODs happen by specifically planning for them and offering development and financial incentives (figure 5.12). For example, the cities of Pasadena and South Pasadena prior to the opening of the Gold Line and in anticipation of it had designated TOD districts, offering increased densities and reduced parking requirements to developers willing to build there. Similar to the Red Line, some of the properties now housing TODs around the Gold Line stations (such as the apartment housing development in the Sierra Madre Villa station and the mixed-use development in the Del Mar station) were sold to developers by the public agency (in this case, the Gold Line Construction Authority). The development incentives and enabling policy environment found a receptive audience in developers, who built a number of TODs around the stations of the Gold Line (Loukaitou-Sideris 2010).

By the 2010s, TODs had become the cornerstone of the region's planning. The county of Los Angeles has sought to concentrate the bulk of development in the region's unincorporated areas around transit stations, designating new transit-oriented districts and preparing TOD Specific Plans that incentivize development to locate within these districts (Los Angeles County Department of Regional Planning website). Similarly, starting in 2012, the city of Los Angeles initiated the preparation of Transit Neighborhood Plans

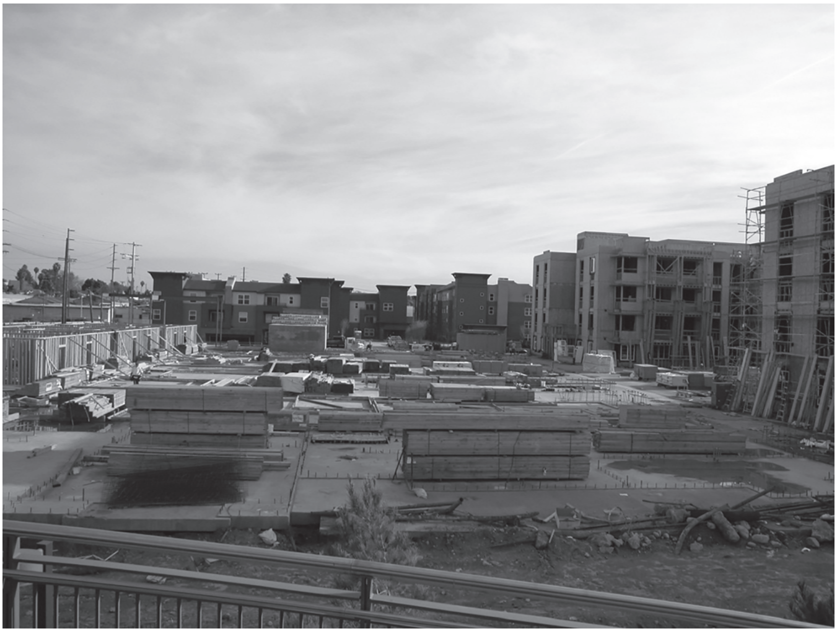


Figure 5.12

Aerial view of Lincoln Heights Station area under construction.

Source: https://www.flickr.com/photos/19902364@N00/85449677/in/album-1824460/, NonCommercial 2.0 Generic (CC BY-NC 2.0).

(TNPs) to also concentrate the city's development around its expanding railway network. Metro has also initiated a joint development program that actively seeks to collaborate with developers and build TODs by often underwriting or sharing some costs. Providing housing for a mix of incomes is listed as a goal in most of these plans, and transit-oriented districts are described as "keys to enhancing affordable living" (Center for Transit-Oriented Development 2010). But is this assertion true, or have transit stations resulted in gentrification of their adjacent areas, with displacement of the original residents? In the next section, we will examine this question with an empirical analysis of Los Angeles and the Bay Area.

Defining and Describing Gentrification and Displacement

As noted in previous chapters, there is considerable disagreement about how to define gentrification and displacement, with some even equating the two. In order to determine how proximity to transit shapes gentrification and displacement, we decided to make an analytical distinction between the two. We consider gentrification as neighborhood transformation that is characterized by both an influx of new investment and an inflow of new people, typically having higher educational and income levels than the original residents. As discussed in chapter 3, this definition thus encompasses both *upgrading* and *upscaling*. In contrast, displacement is a situation experienced by incumbent residents when they are forced out of neighborhoods or cannot move into them. These areas then experience a net loss of affordable housing and/or low-income residents. To operationalize these definitions, we use several sources of secondary data on households and housing prices, described in the following section.

Data Sources and Terms

Gentrification Following Freeman (2005) and Bates (2013), we used the criteria outlined here to define a neighborhood (census tract) as having gentrified between two time periods (Year 1 and Year 2).

In Year 1, a tract was classified as eligible for (or vulnerable to) gentrification if it met all of the following criteria:

1. The tract had a population of at least 500 residents
2. The tract had at least three out of four of the following indicators indicating vulnerability to gentrification:
    - Percentage of low-income households (household income below 80 percent of the county median) above the county median
    - Percentage of college educated (bachelor's degree or higher) below the county median
    - Percentage of renters above the county median
    - Percentage nonwhite above the county median

In Year 2, a tract was considered gentrified or gentrifying if it met the following criteria:

1. Demographic change between Years 1 and 2
    - Change in percentage of college educated above that of the county (percentage points)
    - Change in median household income above that of the county (absolute value)

For Los Angeles only:[3]

- Change in percentage of non-Hispanic whites above that of the county (percentage points)

2. Investment between Years 1 and 2
   Growth in either

   - Single-family sales price per square foot above the regional median or
   - Multifamily sales price per square foot above the regional median

   For the Bay Area:

   - Home value above the regional median

   For Los Angeles:

   - Change in the median household rent value above the change in the regional median

Using the criteria for the Bay Area, we find that 83 tracts gentrified between 1990 and 2000, and 85 tracts gentrified between the years 2000 and 2013 (for a total of about 10 percent of all tracts). Of the 85 that gentrified between 2000 and 2013, 19 were tracts that gentrified between 1990 and 2000 as well. In total, we estimate that 149 tracts gentrified between 1990 and 2013, or about 9.4 percent of the total. In Los Angeles, using a somewhat different definition of gentrification, as explained in note 3, we find that 81 tracts gentrified between 1990 and 2000 and 82 tracts gentrified between 2000 and 2013. Of the 82 tracts that gentrified between 2000 and 2013, eight had also gentrified in the previous decade. We estimate that a total of 155 tracts gentrified between 1990 and 2013 in Los Angeles, or 6.6 percent of the total.

Exclusion Exclusionary displacement creates barriers that make it difficult for disadvantaged residents to move into a neighborhood. To analyze exclusion, we look at the share of newcomers by demographic and socioeconomic characteristics. Specifically, we focus on the share of newcomers who are in poverty (and also over age 15), have high income (with household income over 120 percent of the county median), are non-Hispanic whites, are individuals with less than a high school diploma, and are persons with a bachelor's degree or higher (persons 25 years old or older).[4]

Changes in affordable housing For this analysis, we look at a more direct measure of displacement by examining the loss of affordable housing as a proxy for the loss of households. We measure this by analyzing the change in affordable rental units, Section 8 vouchers, and subsidized units, including Low-Income Housing Tax Credit (LIHTC) units, from 2000 to 2013.[5] We define affordable rental units as those where low-income households are paying less than 30 percent of their income on rent. Researchers often call these "naturally occurring" affordable housing since they are not subsidized by government but rather are units produced by the market that decrease in quality and thus price.

Loss of low-income households Another approach to estimating displacement is by using the loss of low-income households. Because of the lack of readily available panel data on where households live, it is not possible to measure displacement of individual households directly.[6] Instead, we measure the number of low-income households at Year 1 (e.g., 1990) and Year 2 (e.g., 2000) to determine the change, which may occur either because of neighborhood turnover or from changes in income experienced by existing residents.

Although this measure has rarely been used before, it is one of the best proxies that is readily available. Researchers have found that neighborhood composition in the United States is considerably stable (Wei and Knox 2014; Landis 2016). In general, the number of low-income households is increasing in the United States because of increasing income inequality. For example, the average Bay Area census tract saw an increase of 59 low-income households between 2000 and 2013. Therefore, we may assume that any neighborhood that experienced a net loss of low-income households while remaining stable in overall population has experienced displacement pressures.[7]

Development in Transit Neighborhoods

As a first step toward understanding the relationship between transit and gentrification, we examine new residential development in transit neighborhoods. As chapter 3 showed in its review of approaches to understanding gentrification, "new-build" development can be a key indicator of a gentrification process in some neighborhoods.

We use the term "transit neighborhood" here to encompass the built environment within a half-mile radius of a fixed-rail transit station. This is a broader term than TOD, which generally refers only to the new or redeveloped property in the vicinity. This section examines the location of transit neighborhoods and characterizes the different types of development that have occurred within them.

The number of rail stations in the Bay Area has more than doubled since 1990. Thus, as of 2014, there were 548 census tracts within a half mile of rail transit in the Bay Area, or just over one-third of all tracts, mostly clustered in heavily populated areas. In 2000, 488 census tracts were near transit, while in 1991 there had been just 418.

One way of differentiating between transit neighborhoods is by the amount of development of both housing and transit that has occurred. In the San Francisco case, we use a cluster analysis to distinguish between transit neighborhoods that have significant subsidized housing development (near existing transit), transit areas with significant private development near transit, and transit areas with very little development at all (despite some new transit) (figure 5.13). Altogether, the first decade of the new

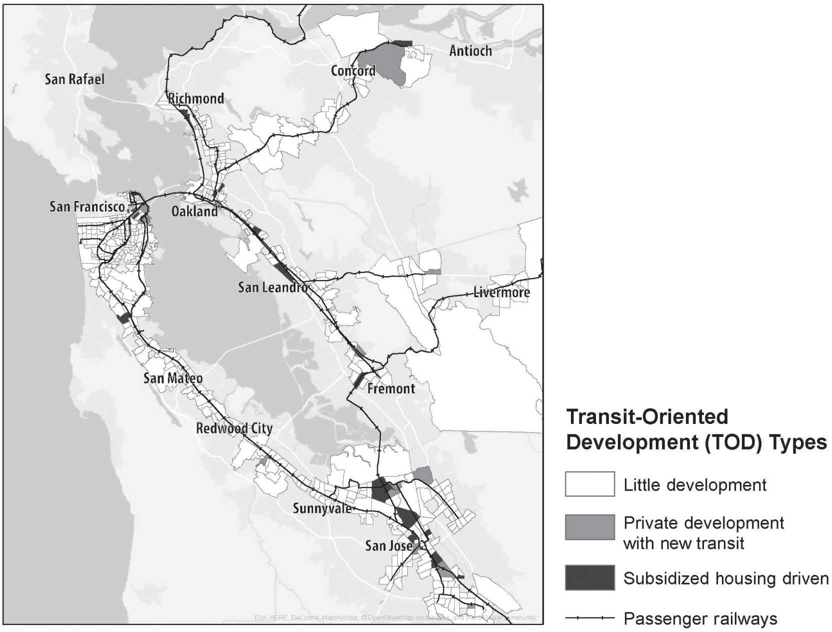

Antioch
Concord
San Rafael
Richmond
San Francisco
Oakland
San Leandro
Livermore
San Mateo
Fremont
Redwood City
Sunnyvale
San Jose
Esri, HERE, DeLorme, Mapmyindia, © OpenStreetMap contributors, and the GIS user community
Transit-Oriented Development (TOD) Types
Little development
Private development with new transit
Subsidized housing driven
Passenger railways

Figure 5.13
Development tracts in the Bay Area. Calculations by the authors.

millennium saw the construction of some 85,200 market-rate units and 22,700 subsidized units in transit neighborhoods.[8] However, this development has been highly concentrated in just a few neighborhoods. The vast majority of transit neighborhoods (93 percent) have seen little development of any kind, 24 tracts have seen mostly subsidized housing development, and 14 tracts have mostly gained private development.

Similarly, despite its 80 transit stations and 387 transit neighborhoods, Los Angeles has seen significant development in just 21 of its transit neighborhoods, or 5 percent of the total. Overall, Los Angeles experienced significantly less residential development in its transit neighborhoods than the Bay Area did, with just 9,700 market-rate units and 5,000 subsidized units constructed.[9] Transit neighborhoods in Los Angeles clearly show the impact of Metro's joint development program. Based on a cluster analysis, almost two-thirds (13) of the transit neighborhoods can be characterized as a mix of market-rate and subsidized housing units in Metro joint development projects (figure 5.14). Four transit neighborhoods feature new development primarily in the form of subsidized housing (LIHTC units). The remaining four neighborhoods (including, for example, the Arts District in downtown) host development that is privately driven, with a couple of hundred subsidized units as well.

Development and gentrification do not have a clear relationship in transit neighborhoods. Figures 5.15 and 5.16 map the extent of gentrification in transit neighborhoods in the Bay Area and Los Angeles, respectively, for the decade of the 1990s, the following period (2000–2013), and both combined. As noted, both regions experienced gentrification in about 150 neighborhoods (though we use a more conservative definition in Los Angeles, which may underestimate its extent). Many transit neighborhoods do not undergo gentrification, either because they were not low income to begin with or because there was not sufficient demographic change during the time period of analysis.

In the vast majority of neighborhoods, neither development nor gentrification occurred (figure 5.17). Where development did take place, it was often without gentrification. Similarly, where gentrification has occurred, it has typically been without development. Having failed to find a simple relationship between gentrification and development, we next model gentrification, in order to identify the factors that may predict it.

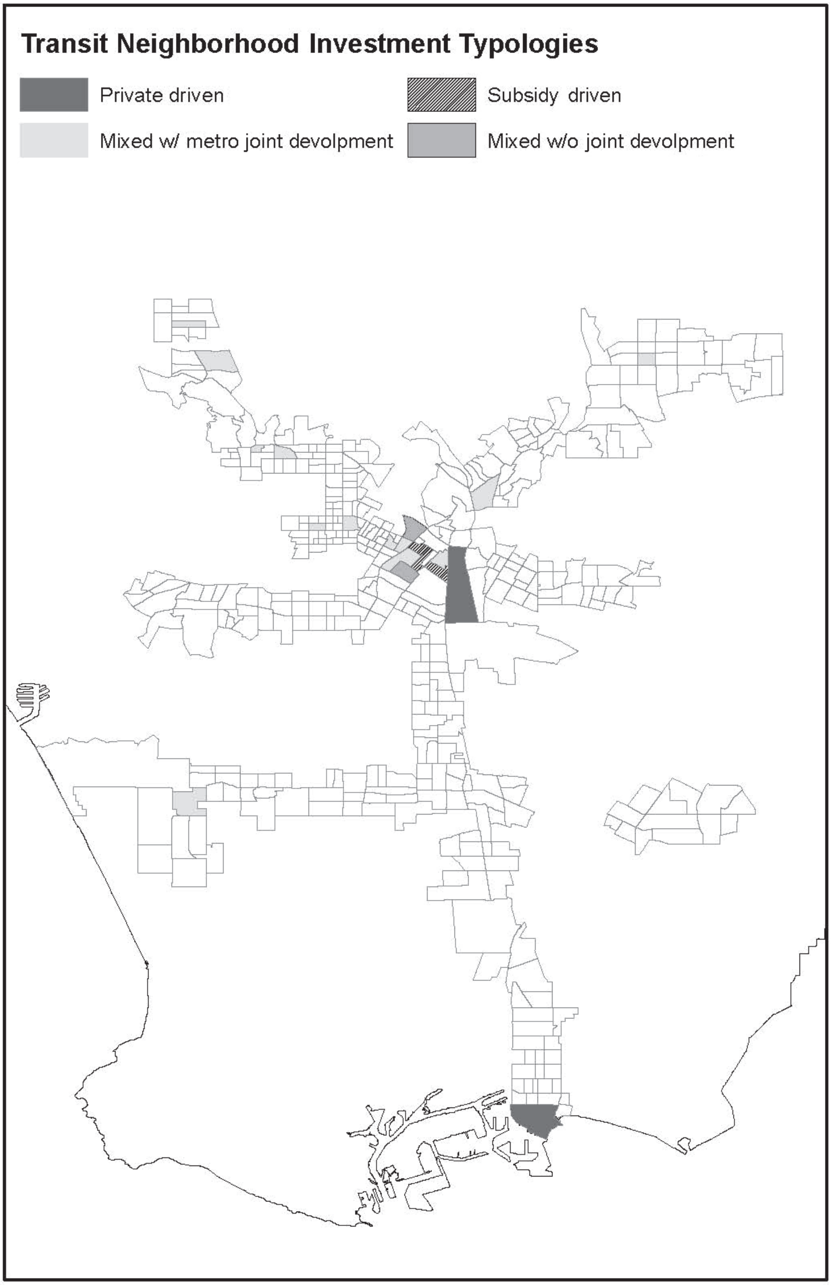
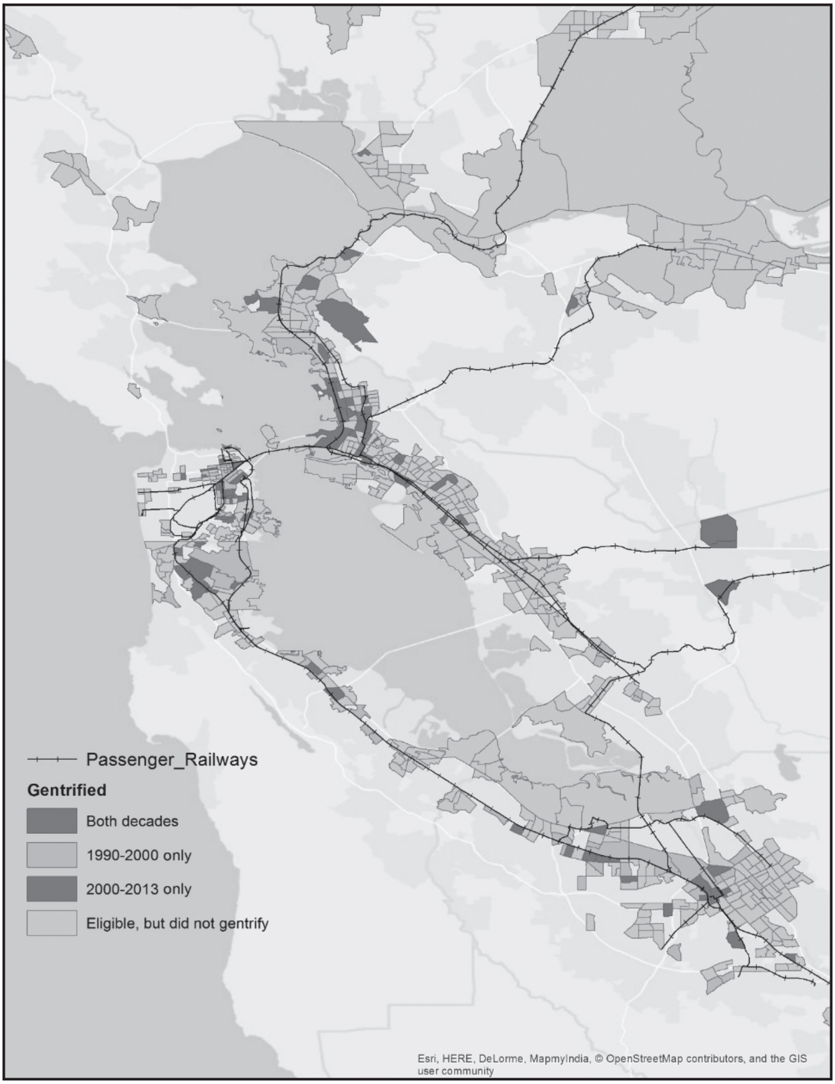

Transit Neighborhood Investment Typologies
Private driven
Subsidy driven
Mixed w/ metro joint devolpment
Mixed w/o joint devolpment

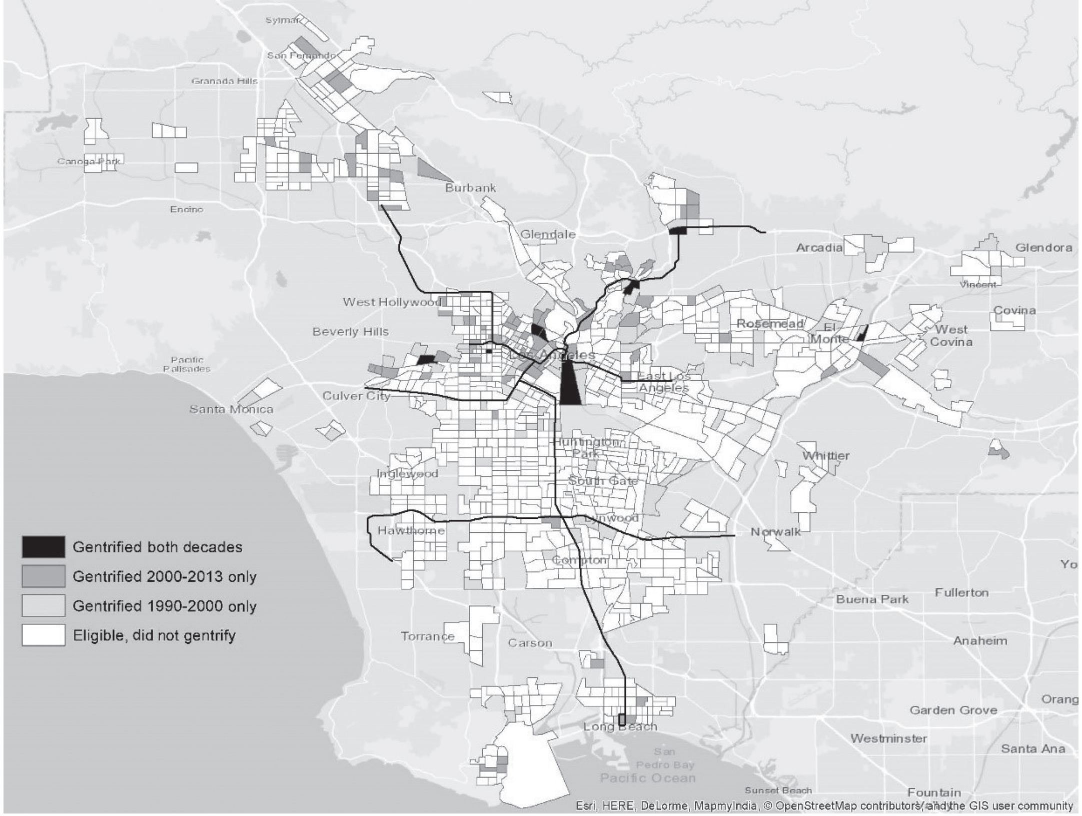
Figure 5.14
Development tracts in Los Angeles County. Calculations by the authors.


Passenger_Railways
Gentrified
Both decades
1990-2000 only
2000-2013 only
Eligible, but did not gentrify

Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Figure 5.15

Gentrification in transit neighborhoods, Bay Area. Calculations by the authors.



Gentrified both decades
Gentrified 2000-2013 only
Gentrified 1990-2000 only
Eligible, did not gentrify
Sylmar
San Fernando
Granada Hills
Canoga Park
Encino
Burbank
Glendale
West Hollywood
Beverly Hills
Pacific Palisades
Santa Monica
Culver City
Los Angeles
East Los Angeles
Arcadia
Glendora
Vincent
Covina
West Covina
Rosemead
El Monte
Huntington Park
South Gate
Inglewood
Lynwood
Hawthorne
Compton
Whittier
Norwalk
Torrance
Carson
Long Beach
San Pedro Bay
Pacific Ocean
Sunset Beach
Buena Park
Fullerton
Anaheim
Garden Grove
Westminster
Santa Ana
Fountain
Orang
Yo

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Figure 5.16
Gentrification in transit neighborhoods, Los Angeles. Calculations by the authors.

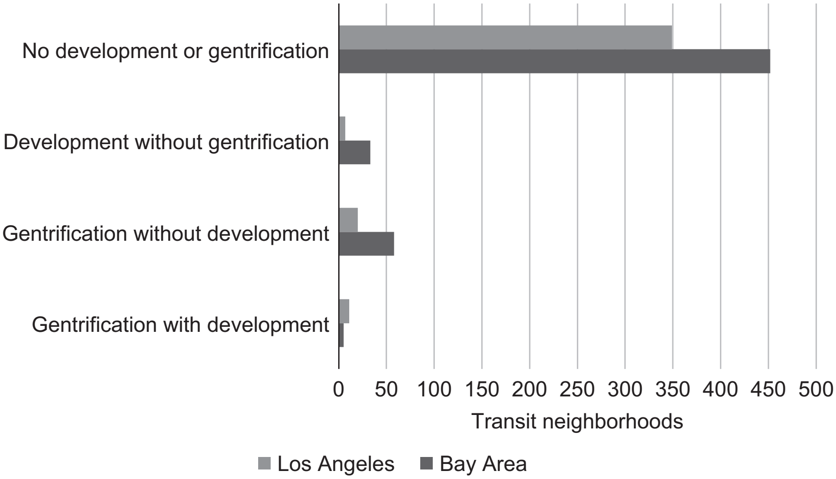


Figure 5.17
Relationship between gentrification and development, Bay Area and Los Angeles. Calculations by the authors.

Modeling Gentrification

As we noted in chapter 4, gentrification does not follow a set schedule; processes may unfold over a few years or decades. It is also possible that the characteristics of gentrification shift over time, for instance as housing market preferences evolve. Thus, for each region, we model gentrification for two individual time periods, 1990–2000 and 2000–2013, looking at the subset of gentrification-eligible tracts in each region (tables A.1 and A.2 in appendix A).

In the San Francisco Bay Area, only established stations (those built in the 1990s) appear to positively influence gentrification. In the 1990s, they predicted gentrification in both the three major cities (Oakland, San Francisco, and San Jose) and the rest of the region, but by the following decade, the effect was seen only downtown. A similar pattern can be observed in Los Angeles, where a downtown location is significant in both decades. In that region, however, both established (1990s) transit neighborhoods and very recent (post-2012) ones have a positive impact on gentrification. However, neighborhoods that gained transit in the first decade of the new millennium have a negative effect on gentrification. It is unclear why; perhaps it has to do with the specifics of the communities where the stations were built in that decade, which cannot be captured in aggregate census data.

These results suggest that if transit has an impact on gentrification, it generally takes decades to unfold. Gentrification is also far more likely to result if a station is located in the core of the region rather than at the periphery. Although our models do not account for this possibility, it could be that other factors are influencing gentrification as well. For instance, the redevelopment of downtown Los Angeles may have had just as much of an effect as its new accessibility.

We sought to control for two other factors that could influence gentrification: the percentage of all housing units that were built before 1950 and tract-level job density. In Los Angeles, both are significant in both decades. For the Bay Area, the share of older housing is only significant in the latter decade, potentially reflecting shifts in neighborhood and housing preferences.

In the United States, the concentration of minority populations in neighborhoods is thought to play a significant role in making them vulnerable to gentrification, perhaps because of the lack of economic power of these populations to withstand market forces, as well as the long-standing disempowerment and even trauma they have experienced (Pinderhughes et al. 2015). Indeed, in Los Angeles, neighborhoods with concentrations of African Americans, Latinos, and Asians were more likely to gentrify in the 1990s. However, this had shifted by the following decade, when neighborhoods with a higher share of nonwhites in the population were actually less likely to gentrify. Most likely, gentrification was initially concentrated in minority areas and then shifted to other neighborhoods, or alternatively, neighborhoods that lost much of their minority population in the 1990s continued to gentrify in the next decade. In the Bay Area, race and ethnicity are less likely to play a significant role: only African American neighborhoods significantly attract gentrification, and only in the decade after 2000, possibly reflecting shifts in neighborhood preferences or housing availability.[10] This suggests that as the housing market tightens further, more communities of color may be at risk.

Gentrification is not an end state. For the tracts that have gentrified, neighborhood change is occurring before and after gentrification. On an ongoing basis, neighborhoods experiencing gentrification are often also experiencing fewer low-income households moving in, are losing their naturally occurring affordable housing, and are continuing to lose low-income residents. We turn next to these indicators.

Modeling Exclusion

As chapter 3 notes, although researchers disagree about the extent to which gentrification leads to displacement, they concur that gentrification is strongly associated with exclusion. Low-income neighborhoods traditionally experience a disproportionate share of churn, or resident turnover (as discussed further in chapter 8). When neighborhoods gentrify, there are fewer opportunities for low-income households to move in.

To model exclusion, we look at the change in the share of in-movers in the neighborhood (in the past year) who are in poverty (persons 15 years old or older), have high income (household income over 120 percent of the county median), and are non-Hispanic whites, individuals with less than a high school diploma, and those having a bachelor's degree or higher (persons 25 years old or older) (see tables A.3 and A.4 in Appendix A). After accounting for the demographic and socioeconomic characteristics (race and ethnicity, income, and tenure) of the neighborhood, individuals in poverty actually are associated with moving into downtown transit neighborhoods in the Bay Area, while they are excluded from nondowntown transit neighborhoods in Los Angeles. This may be related to the location of housing opportunities for low-income households in both regions: in the Bay Area, much new subsidized housing construction is in transit neighborhoods, while Los Angeles, particularly outside downtown, has seen less. Conversely, higher-income, better educated, or non-Hispanic white persons make up a higher share of movers into all transit neighborhood areas, ceteris paribus. However, in both regions, the higher the share of African American, Asian, and Latino residents, the less likely that high-income, highly educated, and/or non-white populations will move in.

Modeling Changes in Affordable Housing

Affordable housing comes in many different forms, including the units produced by the market that filter down to lower-income households, the units subsidized by Section 8 housing choice vouchers, and units subsidized by the state or federal government (via LIHTC or other means). Each of these types is vulnerable to loss. Affordable units are also lost via conversion to condominiums or, most directly, eviction of residents.

We first examine what is happening with the housing market overall, in regard to the change in affordable rental units (see tables A.5 and A.6 in Appendix A).[11] Transit neighborhoods are significantly associated with the loss of affordability in Los Angeles but not in San Francisco. This may reflect the hot market in San Francisco, which creates additional pressures on the housing stock beyond the effect of proximity to transit.

We then look specifically at subsidized housing, both changes in Section 8 and units in subsidized projects.[12] Again, for Section 8, the presence of transit does not significantly affect changes in Section 8 or other subsidized housing in the Bay Area, perhaps because of other market pressures. In Los Angeles, transit neighborhoods outside downtown are losing Section 8 units, despite an overall increase of such units in Los Angeles County within the last decade. Federally subsidized housing offsets some of the loss; location in a transit neighborhood positively predicts the addition of federally subsidized housing throughout Los Angeles, but in the Bay Area, only in the major cities. In general, in both regions, minority (African American or Latino) neighborhoods are associated with increases in affordable and subsidized housing.

The loss of apartments to condo conversion in transit neighborhoods (see tables A.7 and A.8 in Appendix A) is significant only in Los Angeles, perhaps because of the prevalence of condo conversion regulations across the cities of the Bay Area. Eviction data, available only for the city of Los Angeles and the city of San Francisco, suggest mixed results. In Los Angeles, Ellis Act evictions are occurring relatively less frequently in downtown transit neighborhoods and are not significant outside downtown.[13] In San Francisco, location in a transit neighborhood increases fault (and overall) eviction rates but not no-fault evictions. In general, communities of color in both regions are associated with lower eviction and condo conversion rates, with the exception of Latinos, who experience significantly higher eviction rates in San Francisco, all things equal.

Modeling Loss of Low-Income Households

A final analysis models the loss of low-income households. In the Bay Area, transit neighborhoods outside the three major cities (San Francisco, Oakland, and San Jose) experienced an increase in the likelihood of losing low-income households from 2000 to 2013, which is consistent with the lower rates of low-income inward migration and higher rates of higher-income inward migration. In contrast, transit neighborhoods in the three major cities experienced an increase in the likelihood of gaining low-income households, which may be related to the growth in subsidized housing found in these neighborhoods. Controlling for other factors, neighborhoods with a high proportion of renters were more likely to lose low-income households, whereas minority neighborhoods were more likely to gain them.

As noted previously, displacement may be related to the lack of new housing development around transit. In fact, using the same data for the San Francisco Bay Area, we show that the new construction of both market-rate and subsidized housing decreases the incidence of displacement in tracts across the region (Zuk and Chapple 2016).

Neighborhoods after Transit

Slowly but surely, transit investment transforms neighborhoods. Effects tend to be measured in decades rather than years, but the trends are quite clear: gentrification tends to occur in the region's core, and whether or not displacement is occurring, movers into transit neighborhoods are most likely to be affluent, educated, and white (table 5.3). Proximity to rail transit is often associated with a loss of affordable rental units, particularly those provided by the market, for instance via Section 8 vouchers.

However, there are caveats. Gentrification in Los Angeles and the Bay Area transit neighborhoods cannot be attributed to new residential development, as the vast majority of these neighborhoods experienced relatively little residential development from 2000 to 2013. The loss of affordable housing units is more directly attributable to transit in Los Angeles than in San Francisco, suggesting that transit's impact on displacement may be less in strong market regions or in regions where the system is relatively well established. In general, the differences between the two regions suggest that regional and local context matters in complex ways that are challenging to capture purely by quantitative analysis and require a deeper, qualitative approach. One example is the contradictory findings on race and ethnicity, with different effects on gentrification and displacement across regions and decades. An African American neighborhood may be at risk in San Francisco in 2018 but not in Los Angeles or in 1990 San Francisco. This has to do with both the dynamics of the regional housing market and the deep histories of specific neighborhoods.

Table 5.3

Relationships between transit and gentrification and displacement

Region	TOD area	Gentrification, 1990s	Gentrification, 2000–2013	Low-income movers in	<High school movers in	Change in affordable rental units	Change in Section 8 vouchers	Change in federally subsidized housing
San Francisco Bay Area	Downtown	+	+	+	–	n.s.	n.s.	+
	Outside downtown	n.a.	n.a.	n.s.	–	n.s.	n.s.	–
Los Angeles	Downtown	+	+	n.s.	n.s.	–	n.s.	+
	Outside downtown	n.a.	n.a.	–	n.s.	–	–	+

Notes: n.s. = not significant, n.a. = not analyzed.

Additionally, the analytic findings suggest the imprint of policy mechanisms. Federally subsidized housing and local restrictions on condo conversion seem to be offsetting displacement effects near transit, yet both regions experience displacement impacts outside their downtown areas, suggesting the need for a regional approach to antidisplacement policy. Without intervention from a higher level of government, in fact, cities may lack motivation to enact policies on their own. Chapter 10 thus discusses antidisplacement and affordable housing policies at the regional level.

Lastly, and possibly the biggest caveat of all, is that this quantitative analysis is based on aggregate data at the census tract level, but TOD neighborhoods are lived and experienced places that do not necessarily fit nicely within census tract boundaries. As we have mentioned, gentrification is a dynamic process that may take some time to be documented by census analysts, but it is certainly experienced immediately and dramatically by the household that sees its rent increase or the mom-and-pop store that loses its lease. Gentrification often takes place lot-by-lot, block-by-block, and the particular experiences of people on the ground may not fit nicely with statistical averages and models.

For this reason, chapter 6 turns to particular neighborhoods and their people in an attempt to clarify the mixed findings of the quantitative models in this chapter. As described in chapter 4, even if the quantitative analysis enables systematic comparison between and within regions, it falls short by depicting coarse geographies, using a limited time frame that may not capture the full extent of displacement and gentrification, failing to discern the motivations of key actors, and even presenting challenges in terms of how to interpret statistical significance. Thus, in chapter 6, we examine case studies that allow us to zero in on the transit station geography in ways that cannot be achieved through an analysis at the census tract level, examine a time frame both before and after the 1990–2013 period studied in this chapter, ask actors about their experiences, and assess the neighborhoods more qualitatively. Using this lens helps us verify that even if models do not find significant impacts, fears of displacement are not unwarranted. Processes of neighborhood change are ongoing, and even if new development has been slow to emerge, processes of speculation and churn are already under way. The reality on the ground thus complicates our mixed results on the impacts of transit stations and race and ethnicity on gentrification and displacement.

6 Transit-Oriented Displacement from the Neighborhood's Perspective

Neighborhoods change continuously as a result of the movement of people and capital, both private and public. Sometimes, change is visible, as newcomers walk the streets and new buildings and businesses crop up while others close down or get demolished. Other times, change may be hard to discern, as property transfers and even the arrival of new tenants are not publicized. The process may take decades to unfold and may be discontinuous. Change can stall or reverse, and the neighborhood may never fully transform itself.

The planning and construction of infrastructure complicates the dynamic of neighborhood change even further. Far in advance, investors speculate on properties, and residents begin moving in or are displaced. The nuisances of the actual construction may drive out some households or businesses. As the neighborhood adjusts to the new amenity, and as new development occurs, the pace of change may accelerate. In some cases, it is only at this point that the changes are recognized as gentrification. In other instances, gentrification may never take hold.

As previous chapters established, many factors, both internal and external to the neighborhood, cause gentrification and/or displacement. A growing body of evidence, both quantitative and qualitative, points to the role of neighborhood demographic characteristics, such as race and ethnicity; housing characteristics, such as a concentration of renters; economic characteristics, such as a hot job or housing market; and characteristics of the built environment, such as architecturally distinct urban forms and amenities. Turning to San Francisco and Los Angeles in particular, chapter 5 showed that in certain parts of the region, fixed-rail transit has a significant impact as well.

Quantitative models seeking to explain or predict gentrification presume that the dynamics of neighborhood change are linear and sequential and can be captured in a decade-long snapshot of change across two time points. But what if change is discontinuous or slow? What if displacement occurs before gentrification, so it cannot be measured? By looking at neighborhoods either in isolation or as aggregates in a city or region, models may miss the role of both local and regional contexts. Factors that matter in some places may not make a difference in others—for instance, an influx of specialty shops has a more transformative impact on a quaint residential neighborhood than on downtown. Housing markets function at a regional level, with dynamics in the core shaping the outer neighborhoods. Only by telling the story of change neighborhood-by-neighborhood can we represent these complexities of time and space.

This chapter thus tells the story of neighborhood change by using the cases of three neighborhoods in the San Francisco Bay Area and three in Los Angeles.[1] We select the cases to explore three dimensions of the quantitative analysis: (1) examples of well-established gentrification around a transit station (San Francisco's Mission District and Los Angeles's Highland Park), (2) examples of incipient gentrification near transit (the Bay Area's Redwood City and Los Angeles's Boyle Heights), and (3) examples of policy-driven and/or development-driven neighborhood change (Diridon in San Jose and Hollywood/Western in East Hollywood). All of the neighborhoods house a significant low-income Latino population, but for some displacement has already occurred, while for others it has not yet started.

In each region, we highlight the major lessons imparted by the cases. The San Francisco cases show how a strong economy can create pressures that play out over decades throughout a diverse region. In Los Angeles, the reestablishment and revalorization of the downtown core, combined with a very tight housing market, have rippled out into adjacent neighborhoods. We untangle these stories in the sections that follow.

Neighborhood Dynamics in the San Francisco Bay Area

When the popular media evokes gentrification, a violent image of San Francisco often appears. Groups such as the San Francisco Tenants Union, the San Francisco Anti-Displacement Coalition, and the Anti-Eviction Mapping Project document displacement patterns and organize in support of the tenants

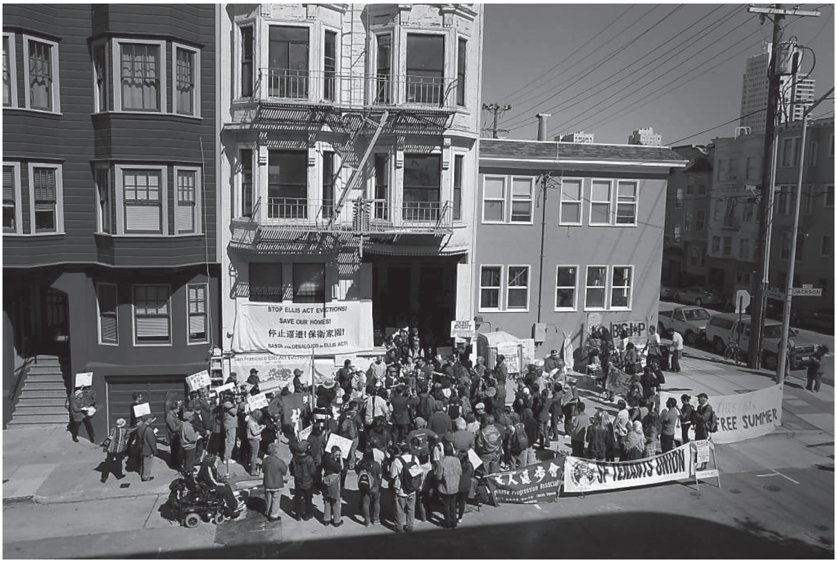

STOP ELLIS ACT EVICTIONS!
SAVE OUR HOMES!
停止逼遷！保衛家園！
BASTA a los DESALOJOS de ELLIS ACT!
San Francisco Ellis Act Evictions
SF TENANTS UNION
FREE SUMMER
JACKSON

Figure 6.1
Protest against evictions in San Francisco's Chinatown.
Source: Brant Ward, *San Francisco Chronicle*.

whose landlords aggressively uproot them from rental housing (figure 6.1). Battles often occur building-by-building, creating a dramatic backdrop.

San Francisco offers the iconic image of gentrification in part because of its long history as a boom or bust city. Since the Gold Rush, it has seen periods of rapid job growth followed by decline (Walker 1996). Although San Francisco, with its finance industry, was the indisputable capital of the region throughout much of the twentieth century, Silicon Valley has fueled regional growth since the late 1980s (Saxenian 1996; Storper 2013). From hardware, to software, to the internet, technological innovation has created a series of growth spurts. Economic booms draw migrants from other regions and countries, yet cities add housing much more slowly than they add jobs, so job growth is associated with rapid appreciation of housing prices, often in a highly localized area (Chapple et al. 2004). Landowners thus take advantage of the opportunity to extract profit during the upswing, raising rents and often welcoming newcomers at the expense of long-term residents.

The region is also known for its high quality of life. A greenbelt preserves land and scenic vistas, while cities small and large were built around plazas and parks. Arts and cultural institutions, funded by wealthy philanthropists, abound, and many of the region's cities are among the most racially and ethnically diverse in the country. Such assets—whether physical amenities or communities—bestow value on neighborhoods, realized by long-term residents and discovered by newcomers (Walker 2009). The situation with transit infrastructure is no different. As rail transit systems connect the region's neighborhoods, the new accessibility can accelerate or trigger a process of change in neighborhoods that are undervalued but rich in assets. Job centers become readily within reach of formerly isolated neighborhoods, and new residents are drawn by the relatively low housing costs.

How this story plays out differs across time and space. As the story of Concord in chapter 4 shows, fixed rail may not transform its environs immediately but instead shapes developer investments and local plans in a process that takes decades to unfold. Because of the new connectivity, the region's patchwork of microhousing markets begins to function more as one regional market. While some neighborhoods quickly gentrify, others wait for new investment to arrive. Displacement may occur before, during, or after gentrification or, under certain conditions, not at all.

In the Bay Area, the layering of several different rail systems complicates the story even further (as described in chapter 5). Streetcars came and went, but commuter rail persisted, augmented by BART, and then new light rail systems. Fixed-rail transit led to development concentrated in downtown core areas, but outlying neighborhoods often responded more slowly. In the heart of San Francisco, BART cuts across the Mission District, where each real estate cycle in succession has initiated a new phase of gentrification so that the neighborhood might be described as being in an advanced state of gentrification (Zuk and Chapple 2015a). Change took hold far more slowly in Redwood City, a working-class enclave located next to the commuter rail station connecting San Francisco and San Jose, which has only started to gentrify during the most recent economic boom, with an incipient displacement crisis. The transformation of the San Jose Diridon Station area has occurred in fits and starts because of the use of a cumbersome redevelopment process that left patches of the neighborhood vacant for years. Nearby, property values have increased in anticipation of the change. The transformation of these neighborhoods is occurring not in isolated bubbles but in relation to each other and the regional housing market. The movement of households in and out of these neighborhoods connects them together; where the movement is forced, it becomes what Marcuse (1986) called a "chain of displacement." The regional accessibility that transit brings is another unifying factor, attracting new residents who use transit for the commute, while not serving the needs of the existing Latino communities. Not surprisingly, then, both the Mission District and Diridon cases have produced local resistance to the outsiders. Interestingly, Redwood City, where the Latino community is of more recent origin and continues to grow, remains relatively quiet amid the changes.

The Mission District: Gentrifying for 30 Years

The transformation of the Mission District in southeast San Francisco illustrates how a process of gentrification and displacement can unfold over decades. A Latino enclave since the 1950s, the Mission District has experienced an influx of investment and higher-income, usually white, residents attracted by its accessibility, cultural assets, and sunny weather relative to the rest of San Francisco. Multiple bus lines as well as two BART stations (16th Street Mission and 24th Street Mission) service the neighborhood for an easy commute to the financial district. The neighborhood is also close to the freeway, which provides accessibility to the greater region, including Silicon Valley.

Affluent newcomers began arriving in the neighborhood in the 1980s, and change accelerated through the 1990s and in the following decade. These first three waves of gentrification are the main story in the neighborhood's shift from being a lower-income Latino area to its present state. A subsequent wave of gentrification by tech workers after the Great Recession has occurred in a neighborhood context that is largely gentrified already—not just with new residents who had moved in but with an ongoing influx of new retail and public investment. Today's ongoing battle over the Mission District is therefore of a different kind, with weaker community organizations and fewer housing units left to gentrify. Many longtime residents are holding on and benefiting from the neighborhood's new investment and amenities, but with a limited number of affordable units remaining, pressure is concentrated, with less of a community to defend them.

A stable working-class Italian and Irish neighborhood, the Mission District began housing significant numbers of Latino (Mexican and Central American) immigrants in the 1950s, often by subdividing its large Victorian buildings. It was always a neighborhood in transition. As Godfrey (1985, 51) notes, "Movement out of the Mission is a sign of upward social mobility and acculturation. This continual turnover of the immigrant population maintains the Mission District's ethnic enclave." Transportation improvements spurred neighborhood change—beginning in the 1850s with the Mission Plank road and omnibuses, followed by the horse carriage and streetcar, and finally BART. The elimination of MUNI streetcars, replaced by the Mission District's two BART stations in 1973, was met with local concern about potential loss of mobility (Callwell 1999). Fears of displacement accelerated as the periphery of the district attracted "youngish, affluent Anglos" shortly after BART construction (Godfrey 1985, 52). Despite the influx, Latinos continued to concentrate in the neighborhood, which actually "increased feelings of general Latino cohesion in the District" (Godfrey 1985, 52).

The Latino population peaked at 50 percent of the Mission District's residents in 2000, as the total neighborhood population swelled from 46,000 to 54,000. After that, however, the Mission District began losing residents, primarily because of the outmigration of family households, and the Latino share decreased to 38 percent in 2010 and 36 percent in 2015. Meanwhile, the percentage of residents age 25 or older with a bachelor's degree or higher increased dramatically, from 18 percent in 2000 to 51 percent in 2010 and 54 percent by 2015, accompanied by increases in median incomes, rents, and housing prices disproportionate to those of the city as a whole (Zuk and Chapple 2015a).

Most recently, the Mission District (and San Francisco more generally) has seen an influx of tech workers, many of whom live in the city but commute to Silicon Valley. Ridership has increased steadily at the neighborhood's two BART stations (though actually at a slightly slower pace than for the entire system),[2] but it was the Google bus's use of local public bus stops without paying for use of the public space that sparked an activist backlash against tech companies and their urban commuters (figure 6.2). Gentrification now had a clear culprit. Analysis of housing cost increases around Google bus stops suggests that demand from tech commuters is indeed putting pressure on the housing market (Goldman 2013).

The bulk of the demographic shifts in the Mission District, however, had occurred by 2010, prior to the most recent wave of gentrification. By around 2005, private investment in housing (measured in terms of housing prices, number of sales, and construction costs) was already nearing record amounts; after the Great Recession, these were not surpassed again until 2014 (Zuk and Chapple 2015a). Housing market dynamics have shifted over

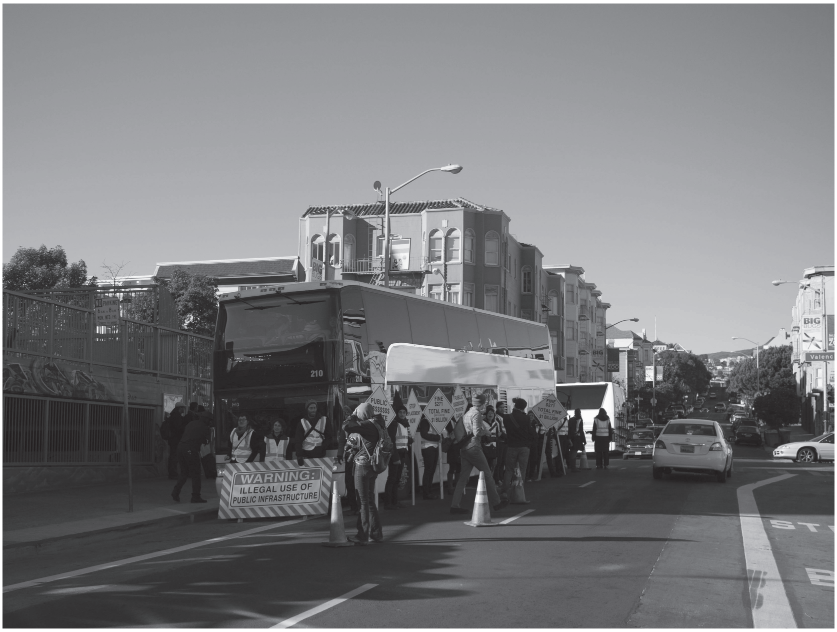


Figure 6.2
Demonstration around Google bus.
Source: Chris Martin, https://www.flickr.com/photos/cjmartin/11295683955/, 2.0 Generic (CC BY 2.0).

the decades, as high-income investors have succeeded early speculators. For instance, property flips, measured as the percentage of properties sold within two years of purchase, increased from 19 percent in 1990 to 26 percent in 2007 and then declined to 9 percent in 2014. No-fault evictions reached a high of 340 per year in the late 1990s but tapered to 210 per year in the 2010s.

Activist responses evolved as well. The dot-com boom had seen the formation of the Mission Anti-Displacement Coalition (MAC), which engaged in "base building," or helping diverse stakeholders such as tenants, homeless people, and artists understand the issues so they can advocate as constituents. Working across issue areas from economic development to housing, MAC learned how to strategically apply pressure to the city or developers, succeeding in enacting a development moratorium and initiating a new planning process (the People's Plan). Over time, however, the organizing momentum was lost. As one community leader we interviewed asked, "Why is it that that base is not as active today impacting and affecting change?" To this stakeholder, the loss of Latino households and artists, the competition among community-based organizations (CBOs) for funding, and the current "velocity of change" made issues more difficult to confront.

Summarizing the impact, a report published at the time of the dot-com boom wrote this about the community response:

> Community groups in the Mission were slow and ineffective in responding to gentrification, according to community leaders. Non-profit leaders who were already consumed by their own organizational agendas—housing, business development or family services—missed the early signs of impending gentrification pressures.… [A] number of non-profit representatives believe in retrospect that a key opportunity was missed to educate neighborhood residents, businesses and city officials about the benefits and dangers of rapid gentrification. They acknowledged their inability to craft an effective agenda for public officials to help respond to the threats of displacement that they would face. For these community leaders, the gentrification war was lost before the first battle was even fought. (Kennedy and Leonard 2001)

This criticism holds true today, when community organizations mobilize more readily around opposition to new development than to the construction of a comprehensive antidisplacement agenda with a broad coalition. Even though no new housing was built in five years during the downturn, some oppose any housing production that is not primarily affordable to low-income households. For instance, community groups fought a proposed 157-unit building at 1515 Van Ness that would have included 37 affordable units (25 percent of the total units), withholding its approval until the developer offered community benefits that were more comprehensive, including support for the Mission's Latino Cultural District (Dineen 2017).

Even as the amount of housing stock available to gentrify dwindles, the Mission District will likely continue to be a battleground as it copes with increasing diversity. Driving early stages of gentrification in the neighborhood were amenities and culture. Now, however, change is increasingly driven by regional job accessibility, anchored by the neighborhood's BART stations and private shuttles. The residents, who complained about their local MUNI transit being replaced by the regional BART system, were remarkably prescient.

Redwood City: Gentrification and Displacement in Unexpected Places

Located on the southeastern edge of the San Francisco Peninsula in affluent San Mateo County, Redwood City is currently undergoing the most rapid housing and population growth in the county, fueled in part by its location along the Caltrain commuter line between the job centers of San Francisco and Silicon Valley. Another reason for the changes is the city's vision for its downtown as a new regional hub for entertainment and commerce and home to a greater number of wealthy residents; government officials now refer to the city's motto "Climate Best by Government Test," originally intended to refer to local weather, to describe local business climate (figure 6.3) (Redwood City 2011). City officials are intent on extinguishing the old moniker "Deadwood City," which over the past several decades has been used by locals to characterize the moribund downtown area, but not all city residents are enthusiastic about the changes. Historically, the city has played a role as a home for working-class families on the Peninsula, and few expected the recent transformation, which has been accompanied by some gentrification and displacement.

The oldest city on the Peninsula, Redwood City was a port city during the Gold Rush and became the county seat shortly thereafter (Redwood City website). In 1863, the train from San Francisco to San Jose began stopping in Redwood City. On the first day train service was offered, 400 passengers rode an excursion train, and champagne flowed freely (Redwood City Voice n.d.). However, the promise of transit-oriented development was slow to materialize. The train depot burned down in 1980 and was never rebuilt, and by 1992 ridership was just 764 passengers per day (BayRail Alliance 2017). Consecutive tech booms, however, bolstered ridership with commuters to both San Francisco and Silicon Valley. By 2001, ridership was 1,804 passengers per day, a level that remained constant until the last few years, when daily ridership reached nearly 4,000 (Caltrain 2017).

The transformation of Redwood City encompasses changes in population, housing, and jobs. The growth of low- and middle-income Latino households accounts for most of the new population gains, from 76,800 in 2010 to 85,000 in 2016. Median household income lags the rest of the county, while poverty rates exceed it. Nevertheless, the construction of market-rate housing units (with 1,200 already built and 1,300 more in the pipeline) is attracting new residents (Zuk and Chapple 2015a). Historically, housing costs have remained lower than in neighboring cities, so the city has been considered an island of affordability; by 2016, however, rents were comparable to those of the county, at $4,600/month for a single-family home.[3] Because of this, the share of rent- and mortgage-burdened households has increased dramatically. Although speculation in housing has

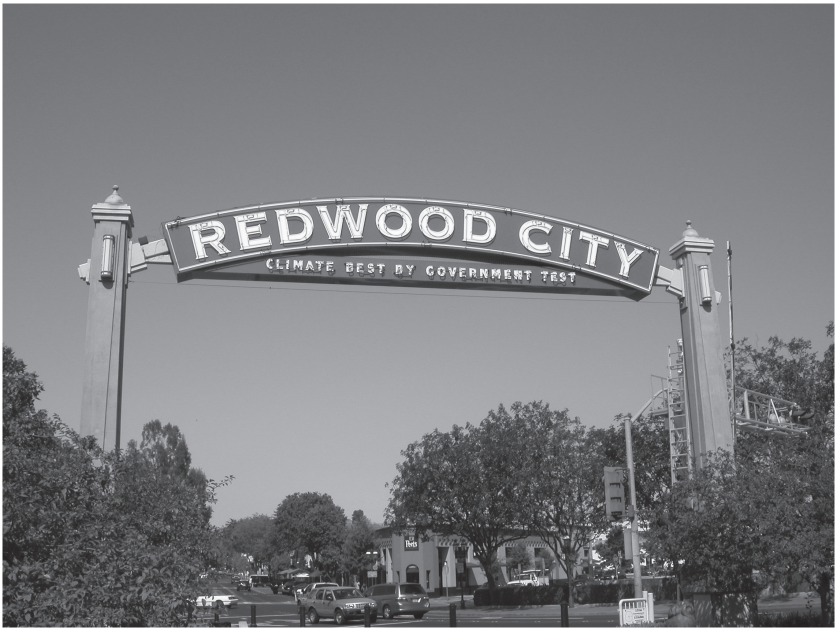


Figure 6.3
An arch adjacent to the Caltrain station welcomes people to Redwood City.
Source: https://www.flickr.com/photos/greenbeltalliance/4645560325, NonCommercial 2.0 Generic (CC BY-NC 2.0).

never occurred at the levels found in the Mission District, it reached a peak in 2013 (with 17 percent of all sales speculative). This suggests that Redwood City has finally attracted the attention of investors.

Job growth has accompanied the city's residential transformation. Redwood City is the home of Oracle, Electronic Arts, Box, and numerous smaller tech companies, and also offers traditional jobs in hospitals, county government, and the port. The last 10 years have seen an increase of 22 percent in workers commuting into the city (to 48,600 in 2014). Increasingly, residents are commuting out as well: in 2004, Redwood City was the top work destination for local residents, but by 2014 Silicon Valley communities employed a much larger share of Redwood City residents.[4]

The recent transformation of Redwood City stems from a perfect storm of factors: the 2011 Downtown Precise Plan, the transportation connectivity to tech job centers provided by Caltrain, the lack of housing construction elsewhere in the county despite a housing crisis, and the availability of low-cost land downtown as a result of its slow decline. In particular, the plan introduced a number of incentives intended to jump-start activity by reducing restrictions on development and streamlining permitting. In a concerted attempt to transform transit's role in the community, the plan made the station its center (what one city official described to us as an "honest-to-God transit core with a very urban downtown"):

> The Precise Plan encourages the creation of a model of transit integration, featuring a convenient transit station on display in the center (rather than at the edge) of Downtown, seamlessly connected to Broadway, Courthouse Square, El Camino Real and adjacent neighborhoods. It is intended that the transit station be so well integrated into the activity patterns, viewsheds, and pathways of the district that the train becomes the primary mode of transportation chosen by the daytime and evening commuting populations within walking distance of the station. In addition, modern streetcars are envisioned as a means of convenient circulation within Downtown, as well as a way to connect Downtown and the Caltrain station to adjacent districts and transit hubs. (Redwood City 2011)

To help rebrand the city, the mayor produced a film noir about the Deadwood City title, in which city officials bury a plaque inscribed with Deadwood City in the foundation of a new building (Redwood City 2014). To revitalize downtown, the plan focuses on market-rate development, reflecting a theory of change explained to us by city officials: gentrification will stoke the first wave of development, attracting residents with disposable income, which will then make it feasible to construct housing at below the market rate. At least initially, the community seemed to support this approach to revitalizing downtown, as did the entire city council, which had experienced very little turnover and voiced concern that Redwood City had taken on more than its share of affordable housing in the past. As one official said in an interview, "The consensus in the city for revitalizing downtown cuts across economics and race; it's not sacrificing the space, but allowing this to be the dense place. It prevents another place from becoming the denser place. We're not going into poor neighborhoods and obliterating them, the gentrification is really that you get people who dress in upscale Levis rather than rag Levis."

Antigentrification activists disagreed, seeing the plan as a giveaway to developers. Even if new development reduces the incidence of displacement in the aggregate (see chapter 5), it may fall short in cases like this, where marketing for new apartment buildings deliberately caters to higher-income outsiders. With community members organizing to prevent evictions and enact rent control, and additional contested elections in 2015, the council finally began to pass a series of affordable housing policies, including amending the plan to require that 15 percent of the allowable units be reserved for affordable housing.

Decades ago, Redwood City seemed like an unlikely prospect for gentrification. Today, it rivals its more affluent neighbors in housing costs, and an influx of tech worker residents is transforming its downtown. Redwood City lacks the diverse amenities, historic housing stock, and cultural milieu of the stereotypical gentrifying neighborhood. Were it not for its transit station and aggressive policymakers, its transformation arguably would never have occurred.

San Jose: The Transit Hub Becomes Transit-Oriented Development

The case of the Diridon Station neighborhood in San Jose shows how state-led transit-oriented development can lead to displacement both before and after gentrification. Within the Bay Area, San Jose stands out for long providing affordable homes for a wide range of incomes and an ethnically diverse population, including many immigrants. By annexing more and more land throughout the twentieth century, San Jose's sprawling housing development has "carried the burden of housing for decades" in Silicon Valley, in the words of former mayor Chuck Reed (Hepler 2014). Perhaps not surprisingly, given this extensive land availability, the area around the city's major train station, San Jose-Diridon, has been slow to develop. Highways cut off Diridon Station from the denser parts of downtown and residential neighborhoods to the south, and new luxury condominium development did not appear until quite recently. This apparent isolation masks past history and future prospects, however. Significant displacement of Latino households took place in prior decades to accommodate nearby development, and current plans envision the site as a regional job and retail center, which, in the recent context of rising housing costs, threatens the stability of the low-income neighborhoods to the south and west.

Diridon Station is a transit hub on the western edge of downtown San Jose, with stops for Caltrain, Amtrak, VTA light rail, ACE, and multiple bus lines. The station is also a planned stop for BART's extension to San Jose and high-speed rail. A stop on the passenger rail line for over 150 years, the station itself is a historic landmark that opened in 1935, when it was relocated from downtown to an industrial area. Extensive redevelopment in the area, beginning in the 1970s, included construction of a convention center and a luxury hotel, expansion and construction of multiple museums, renovation and construction of parks and plazas, construction of over 500 units of market-rate and moderate-income housing, and the addition of 1.2 million feet of new office space (Kutzman and Farragher 1988).

From planning reports, we can get a sense of the nature of the displacement that occurred. The Guadalupe corridor transportation project, meant to improve State Route 85 and US Highway 101 with light rail, expressway, and bicycle infrastructure, was projected to displace 225 people, mostly Hispanic (58 percent) and with lower incomes than for San Jose as a whole (Santa Clara County Transit District 1983). A second project, focused on combating flooding downtown, was to expand the Guadalupe River channel, which would displace another 173 residents, who were mostly Hispanic and renters paying below-market rents. A third project was a large arena that replaced about 25 businesses but only two homes (City of San Jose 1987).

The Guadalupe-Auzerais redevelopment area, partially contained within census tract 5008, was a low-income Latino residential neighborhood of about 12 square blocks. This neighborhood was selected in 1984 as the site for a pair of museums, the Technology Center of Silicon Valley and the Children's Discovery Museum (Novoa 1985). The neighborhood was demolished, and about 300 households were eventually displaced over the course of several years (Fujioka 1986). In the words of one service provider who works with low-income renters in the city and witnessed the downtown's redevelopment, the neighborhoods around Diridon "are no strangers to displacement. A whole barrio was displaced for the Children's Discovery Museum."

In a 1986 op-ed in the *San Jose Mercury News*, Gen Fujioka, who served as legal aide for Guadalupe-Auzerais residents, decried the downtown's redevelopment as gentrification, in an argument that parallels antidisplacement activists' fears about San Jose's current planning strategies:

> This process of "gentrification" will, in turn, force out many existing residents and businesses. A retired cannery worker on a fixed income cannot compete on the rental market with an unmarried accounts manager with money to spare. Similarly, many neighborhood businesses will not be able to compete for commercial rentals with boutiques, espresso and fashion shops, and expensive restaurants.… The irony here is that communities that have maintained the vitality of the downtown area through many lean years of marginal public and private

> services will now be pushed out of their historic neighborhoods exactly at a time when the area becomes, because of massive public investment, a "desirable" place in which to live and do business. (Fujioka 1986)

As these changes occurred in the 1980s, the area experienced population loss. After a stable period in the 1990s, the residential population increased by 50 percent in the next decade (Zuk and Chapple 2015b). Neighborhood residents increasingly are highly educated (with an increase in the college-educated population from 9 percent in 1980 to 44 percent today) and diverse, with a slight loss in the Latino population but increases in the African American, Asian, and white populations. Although the neighborhood is primarily renter occupied, new condominium developments have increased owner occupancy, and local rents have risen, typically surpassing average rents in the city.

At present, the station area still features many undeveloped sites and sits, as one local community organizer told us, at "the intersection of a number of neighborhoods, but lack[ing] a strong identity of its own." Nearby, The Alameda has seen new residential developments and a new Whole Foods Market; as local developers crowed, "It's not just a grocery store, it's exactly the one you would want" (Donato-Weinstein 2014). On another side of the station is Buena Vista, which stakeholders repeatedly identified as an area where low-income renters, many of them Latino immigrants, face rising housing costs and immediate threats of eviction as developers buy up apartments. A local planner said, "People didn't think that would be happening now. Not a project happening yet, but they have permits on file." Nevertheless, the freeways will remain defining features that preclude the connectivity more ideal for transit-oriented development.

The city of San Jose passed the Diridon Station Area Plan (DSAP) in June 2014 for a 250-acre area surrounding Diridon Station. The DSAP envisions increased residential densities and mixed-use development, with 2,600 new units of housing (15 percent of them affordable) and nearly 5.5 million square feet of office and retail development (Wampler 2014). In 2016, Google started buying property in the area, with plans for a tech campus of up to 8 million square feet. Thus, the redevelopment process is finally reaching completion, almost 40 years after its start. The question that remains is, as city council member Don Rocha wrote to his colleagues, how "to help ensure that Diridon is a neighborhood open to all of our citizens." His concerns eerily echoed those of activists decades earlier who felt low-income residents were being excluded from downtown redevelopment:

> I am mindful that while high-tech clusters and impressive architecture may be necessary components for a great city, they are not the only components. An iconic station building will need janitors to clean the floors. Knowledge workers will need teachers to educate their kids. An entertainment zone needs waiters and a stadium needs ushers. The stations and stadiums, the prestigious tech companies—all will rely, at least in part, on the labor of people who do unglamorous work for modest pay and spend a good portion of their income on just getting by. I believe there should be some consideration in our plan for them. (Rocha 2014)

Gentrification in Los Angeles

In a recent workshop that brought together activists, academics, and policymakers to address the pressures that some Los Angeles inner-city neighborhoods are facing today because of gentrification, one of the panelists poignantly reminded the audience that not too long ago their concerns revolved around the private sector disinvestment, public sector neglect, and white flight plaguing the same neighborhoods. Given that these have long been communities of color, this is likely no coincidence.

Indeed, gentrification in Los Angeles only became a hot issue in the last decade, quite later than in the Bay Area. Unlike San Francisco, which is characterized by a strong center, Los Angeles until quite recently has been a "weak-center city"—a polycentric region with multiple centers and a downtown that lacked symbolic or functional primacy and the types of amenities that often induce gentrification processes in central-city neighborhoods (Reese, Deverteuil, and Thach 2010). It is telling that in his seminal book about the city, *Los Angeles: The Architecture of Four Ecologies*, British architectural critic and LA enthusiast Reyner Banham (1972, 183) devotes only a short "note on downtown LA" "because this is all that downtown Los Angeles deserves."

During the decades after World War II and up to the 1980s, almost all building activity in the Los Angeles region took place in suburban and exurban areas, while neighborhoods in the central city and many first-ring suburbs (such as Pico Union, Huntington Park, South Gate, and San Gabriel, to name a few) rapidly lost white residents and businesses, a trend that intensified after the Watts riots of 1965. Soon, lower-income, immigrant groups from Mexico, Central America, and East Asia reoccupied these neighborhoods.

The region has experienced dramatic transformations since the 1980s, however, that have restructured the metropolis and led to the coexistence of tremendous wealth and deep poverty (Soja, Morales, and Wolff 1983). Some of these forces are largely responsible for the current gentrification trends, as a revalorization of downtown and other central city neighborhoods has taken place. Thus, in the past decade, displacement pressures are occurring in neighborhoods “once disdained by those with more privilege” (Pastor 2017).

For one thing, structural shifts in the economy eventually led to deindustrialization, the closure of local plants, and the replacement of many high-paying manufacturing jobs by the minimum-wage jobs of the service economy in the 1980s and 1990s. The Los Angeles region had long been the primary hub for the entertainment and movie industries, but during these decades, the finance, insurance, and real estate sectors also skyrocketed. Domestic and international corporate investments quickly established the city as one of the major command and control posts of the global economy (Sassen 2000), leading economic geographers to proclaim that Los Angeles paradoxically combined the contrasting characteristics of both Frostbelt and Sunbelt cities (Soja, Morales, and Wolff 1983).

The public sector’s contribution to the transformation of Los Angeles into a global city was no less significant. A global city needs a commensurate downtown. Enabled by the legal powers of urban renewal and fueled by global capital eager to build in the cleared and revalorized downtown lots, a powerful public agency—the Los Angeles Community Redevelopment Agency (CRA)—systematically reappropriated and reestablished the center of the city in downtown, creating the modern Los Angeles central business district (Loukaitou-Sideris and Banerjee 1998). In the 1960s and 1970s, using eminent domain, the CRA occupied and cleared all the lots in the downtown residential neighborhood of Bunker Hill, displacing its residents and eventually (in the 1980s and early 1990s) replacing its building stock with high-rise corporate towers, high-end shopping malls, flagship cultural buildings, and corporate plazas (Loukaitou-Sideris and Sansbury 1995).

Although the building fervor in downtown subsided in the early 1990s as a result of the global economic recession’s impact on international capital, it had restarted by the end of the decade and has proceeded at a frenetic pace in recent years. Since 2010, 42 new developments of at least 50,000 square feet have been built in downtown, while 37 additional projects are under construction (Khouri 2017). A good chunk of the new development is now in the south part of downtown (South Park), where a multipurpose sports arena (Staples Center), a major entertainment complex (LA Live), hip eateries, high-end hotels, and market-rate condos have all popped up. Similarly, the eastern part of downtown, for decades occupied by industrial warehouses, empty office buildings, and single-room-occupancy hotels (SROs), and neighboring the largest skid row district in the western United States, is being largely transformed by an influx of residents living in the new residential lofts and patronizing the new bars, coffee shops, and galleries built during the last decade for the hipster crowds of the city's creative economy (Florida 2002).

This has created strong gentrification pressures in downtown and its adjacent neighborhoods, where studio apartments now start at $2,500 per month. The influx of new residents has affected the housing market. Between 2008 and 2011, the increase in affordable units (5.2 percent) fell quite short of the increase in downtown's residential population (15.1 percent) (Downtown Business Improvement District 2016). Even the lowly Skid Row neighborhood saw significant increases in median rents, experiencing the ripple effect of the development in the adjacent Arts District and Gallery Row areas, where by 2010 rents had skyrocketed by 382 percent compared to the beginning of the decade (Collins and Loukaitou-Sideris 2016).

Gentrification did not appear only in downtown and its neighborhoods, however. As discussed in chapter 5, in the first decade post-2000, gentrification pockets emerged at a regional scale in outlying neighborhoods and first-ring suburbs such as Echo Park, Silverlake, Hollywood, Highland Park, and Chinatown, among others. Many, though not all, of these neighborhoods are adjacent to transit stops, as in the last two decades the city has painstakingly built a rail transit network. In addition to the increased desirability that transit access adds to these neighborhoods, planning regulations have strongly encouraged transit-oriented development (see also chapter 2). Other factors that make some of these transit neighborhoods vulnerable to gentrification and the possible displacement of their residents include their largely predominantly minority and renter demographic and the profound housing affordability crisis that plagues the Los Angeles region.

Indeed, the major spatial and economic shifts and transformations that have been under way in the region during the previous decades take place under a deepening housing crisis that has resulted from a woefully inadequate supply of affordable housing, skyrocketing home prices and rents, and increased homelessness. Overall, median household income in Southern California dropped by 8 percent between 2000 and 2014, while median home prices increased by 40 percent and median rents rose 28 percent (Southern California Association of Governments 2016). This tremendous tightness of the housing market pushes middle-class households into more affordable areas, helping to generate gentrification and the prospect of displacement.

Similar to the case of the Bay Area, the sections that follow indicate that the story of gentrification in the Los Angeles area is not linear or similar everywhere but is shaped in different ways by the presence of a Latino community in each case. Highland Park represents a textbook case for gentrification. In its early history, the neighborhood was white and avant-garde; it became primarily Latino at midcentury, to be reappropriated in the twenty-first century by mostly white artists, hipsters, and middle-class families. Highland Park's location, between a gentrified downtown and the affluent municipality of South Pasadena, its increased accessibility (thanks to a new transit stop), historic architecture, low-income Latino residents, and affordable housing stock made it extremely vulnerable and appealing to gentrifiers. Since its early years, Boyle Heights has been a gateway to Los Angeles for many immigrants from different places. The area progressively became a Latino barrio—the symbolic, emotional, and functional center of Latino Los Angeles. A vulnerable neighborhood also because of its central location, high accessibility (thanks to a new Metro Line station), low rents, and low-income, minority tenants, Boyle Heights has become in recent years a front line for antidisplacement activism. While Highland Park and Boyle Heights witnessed gentrification or the threat of gentrification, respectively, without experiencing significant new development, Hollywood/Vine has become, since the opening of its Red Line station, an attractor of new, high-density TODs. This increased housing production came with decreased housing affordability, however, as TOD developers built market-rate apartments and condominiums. These neighborhoods are discussed further in the sections that follow.

Highland Park: A Textbook Case for Gentrification

A first-ring streetcar suburb of Los Angeles, Highland Park represents one of the oldest suburban subdivisions in the city. Along with its neighboring city of Pasadena to the northeast, in the early 1920s Highland Park became a haven for artists and intellectuals of the Arts and Crafts movement, who built their small cottages along the neighborhood's leafy streets, but the fate of Highland Park started changing after the newly constructed freeway system opened up suburban land in outlying areas, facilitating white flight from the neighborhood. Property values and rents began to decline after the 1950s, which opened the door for a lower-income Latino population to move in and settle in the modest area homes. Since the 1960s, Highland Park has been predominantly Latino. As with other central city and first-ring suburban neighborhoods, it experienced economic disinvestment, increased poverty and crime, gang activity, and deterioration of its physical infrastructure and services (Wasilco, Lefkowitz, and Katigbak 2013).

Starting in the late 1990s, a number of white and Latino artists made the neighborhood their home and opened at least 20 art galleries, some of which had been displaced from downtown because of increasing rents. These early galleries were the first sign that the neighborhood was becoming attractive to a hipster crowd, and while the streetcars had stopped operating in 1950, a new transit station of the Metro Gold Line opened in 2003, increasing Highland Park's connectivity to downtown and Pasadena. A hipster establishment, Café de Leche, opened in 2008 and cemented the neighborhood's reputation as "up-and-coming" (Chávez 2015). By 2013, Highland Park had become "the hottest neighborhood in Los Angeles," according to the real estate website Redfin (Ellis 2013). Savvy developers were buying and flipping homes as fast as they could, and signs like the one shown in figure 6.4 have become a common sight in the neighborhood, encouraging low-income homeowners to seek short sales in lieu of foreclosure.

In retrospect, a number of forces acted synergistically to create a textbook case for gentrification in Highland Park, even though very little new development has taken place in the neighborhood. The area's location, only eight miles north of downtown, became even more accessible in 2003 with the opening of the Gold Metro Line, which has a station in Highland Park. The neighborhood is significantly more affordable compared to property downtown and in the cities of South Pasadena to the east and Pasadena to its

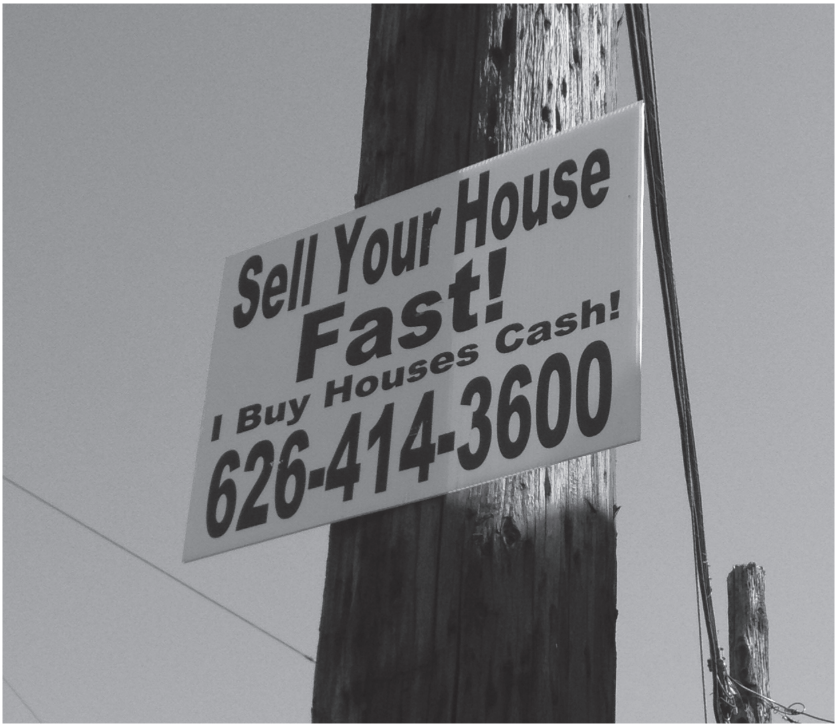


Figure 6.4
Sign in Highland Park. Photo by the authors.

northeast. Many of its houses became even more affordable after their low-income homeowners were hit by the foreclosure crisis in 2008. Highland Park also possesses historically significant and protected arts-and-crafts residences, and a large part of the neighborhood is designated as a Historic Preservation Overlay Zone (HPOZ), another appealing factor for would-be gentrifiers.

The presence and constraining regulation of the HPOZ zone explain the lack of new development in Highland Park. A trip to the neighborhood does not reveal any new construction but finds ample signs of residential gentrification of its existing housing stock: newly painted and renovated homes with upscale landscaping and decorative fencing, even some artwork in the front yards. A sign in Spanish at a bus stop invites residents to a meeting to discuss gentrification and neighborhood change (UCLA Urban Planning 2015). York Boulevard, the neighborhood's primary commercial thoroughfare, has also received a facelift, with bike lanes and a small park.

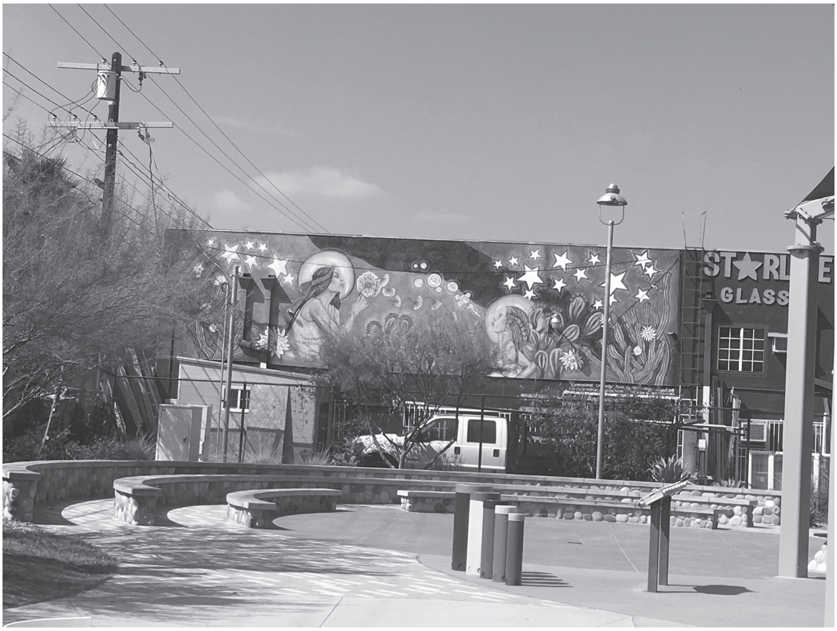


Figure 6.5
Spanish grocery store in Highland Park. Photo by the authors.

According to Redfin, in 2013 Highland Park witnessed a 31 percent increase in its home prices from the previous year (Ellis 2013), and prices are continuously going up. In 2017, the median home price in the neighborhood was around $650K (https://www.zillow.com/research/data/). A look at the Zillow website in August 2017 showed several homes selling for over one million dollars. Highland Park is still a predominantly Latino neighborhood (70 percent), primarily of renters (72 percent renters compared to the 53 percent Los Angeles County average), and 31 percent of them are severely burdened, spending at least 50 percent of their income on housing (UCLA Urban Planning 2015). The Latino culture is still evident in the neighborhood murals and Spanish grocery stores (figure 6.5).

The Northeast Los Angeles Alliance (NELA) was recently formed by residents of northeast Los Angeles neighborhoods, including Highland Park, with the goal of bringing attention to the neighborhood changes and educating residents about gentrification and tenants' rights. However, many activists are concerned that such well-meaning efforts cannot counteract powerful market forces. The winds of change are transforming the neighborhood, displacing low-income Latino households and replacing them mostly with higher-income, college-educated white hipsters.

Mariachi Plaza/Boyle Heights: Guerilla Tactics against Gentrification

The Mariachi Plaza neighborhood in Boyle Heights/East LA shares many characteristics with the Highland Park neighborhood. It is a predominantly low-income, Latino (87 percent), working-class neighborhood, only 2.5 miles east of downtown Los Angeles, around a recently opened (2009) Metro Line station. Similar to Highland Park, the neighborhood is also mixed use and relatively low density, composed of modest single-family wood-frame homes from the 1920s and 1930s and some newer apartment buildings. Some of the houses are even older, turn-of-the-century Victorian structures, designated by the city as historic properties. But whereas Highland Park is considered a lost cause by many antigentrification activists because of its advanced state of gentrification, Mariachi Plaza has emerged at the front line of the fight against gentrification and displacement in the city. Indeed, an ever-increasing number of community-based groups[5] are launching a dogged fight against incoming galleries, coffee shops, and area landlords. The guerilla tactics followed by these groups—which include internet "trolling" of incoming businesses, vandalism, confrontational protests, name-calling of patrons, and rent strikes—are by no means espoused by all neighborhood residents, some of whom rather appreciate the "upscaling" of their neighborhood and the new retail options that come with it. Such protests, however, have acquired a symbolic and emotional meaning for the activists, who present themselves as the defenders of the "barrio" and its Chicano identity (Orta 2017).

Boyle Heights is not new to protests against displacement. Dubbed the Ellis Island of the West Coast, the neighborhood has served as the first port of entry and residence for hundreds of thousands of immigrants. In the 1930s and 1940s, Boyle Heights was the center of the city's Jewish community but also housed large numbers of Russian, Eastern European, and Japanese immigrants. After World War II, however, as these groups became better off, many moved to newer and wealthier subdivisions. Mexican residents have also been present in the area since the 1930s, and their numbers quickly multiplied after World War II. Historian Ricardo Romo, the author of *East Los Angeles: History of a Barrio*, explains that the concentration of

Mexicans in Boyle Heights was largely the result of redlining and racially discriminatory policies that only allowed them to rent homes in neighborhoods "east of the river" (Romo 1983).

In the 1950s, Boyle Heights was invaded and carved in multiple ways by four different freeways, leading to the displacement of many residents and the plummeting of property values in the area. Although the residents were unable to stop this state-initiated displacement, the neighborhood became a center for Chicano civil rights activism in the 1950s and 1960s. Fights against police brutality and the Vietnam War brought many out on the streets in the 1960s and 1970s, while community protests against public neglect and discrimination dominated in the 1980s and 1990s. In 1987, Boyle Heights residents successfully resisted the invasion of an aboveground pipeline that was supposed to carry oil from Santa Barbara to Long Beach through their neighborhood. In 1990, they blocked the building of an incinerator that would have brought dangerously toxic fumes to Boyle Heights, while in 1992 they successfully resisted the building of a state prison in East LA (McGeehan 2017).

Ironically, this time the "intruders" are not nuisance facilities but rather establishments that many associate with neighborhood upscaling and quality of life but that are also staples for the "creative class": art galleries and coffee shops. Indeed, about a dozen art spaces have opened in the last few years in Boyle Heights; some are outposts of larger galleries, while others are more modest local efforts (Miranda 2016). These establishments, and even Self Help Graphics, a long-standing arts laboratory established by Latino artists in Boyle Heights in the 1970s, are facing the wrath of activists, who are accusing them of "artwashing" (figure 6.6). That is the term that activists have invented to describe "the practice of using artists' presence in a neighborhood as a way to dress up a formerly neglected area and rebrand it as highly desirable" (Barragan 2016). More recently, even a small independent coffee shop, Weird Wave Café, was targeted by protesters, who held protest rallies outside the establishment and distributed antigentrification fliers (Vives 2017).

It is not only private businesses that may provide a prelude to gentrification, however. In recent years, the city of Los Angeles has also been making investments in the neighborhood: The Metro Gold Line's Eastside extension opened three stations in Boyle Heights in 2009: Soto Street, Mariachi Plaza, and Pico Aliso. Mariachi Plaza is at the commercial center of Boyle

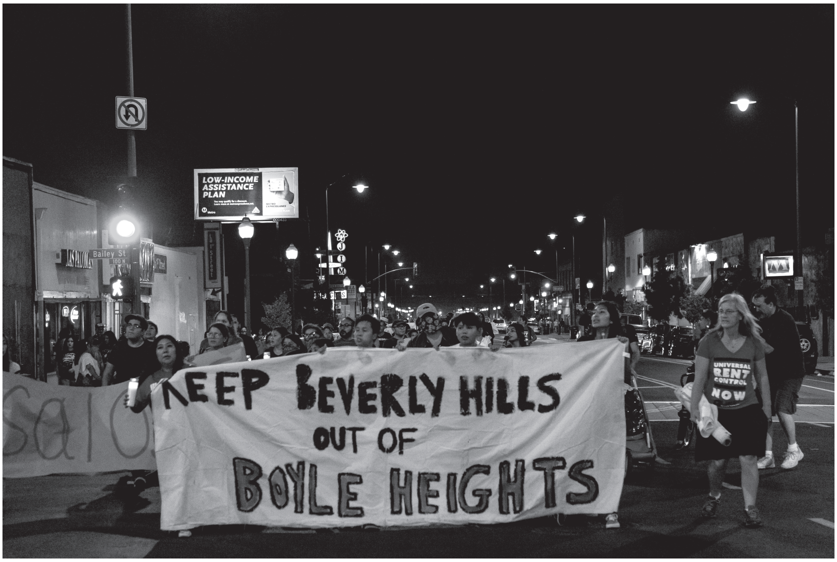

LOW-INCOME ASSISTANCE PLAN
Bailey St
KEEP BEVERLY HILLS OUT OF BOYLE HEIGHTS
UNIVERSAL RENT CONTROL NOW

Figure 6.6
Anti-gentrification protesters in Boyle Heights.
Source: Timo Saarelma, courtesy of Boyle Heights Alliance Against Artwashing and Displacement.

Heights and is surrounded by a number of established Mexican restaurants and stores along the First Avenue corridor. The arrival of the Metro has paved the way for physical retrofitting, such as the newly renovated Mariachi Plaza, a public space that since the 1930s has served as a gathering place for mariachi musicians looking for work (figure 6.7). The station is surrounded by restaurants, a wine bar, stores, and the Boyle Hotel, one of the oldest commercial structures in Los Angeles, and has generated new businesses, some started by local entrepreneurs, such as La Monarca Bakery and Primera Taza, both upscale Mexican cafés.

Is Boyle Heights gentrifying? The neighborhood certainly has not witnessed the extent of gentrification that other predominantly Latino neighborhoods, such as Echo Park, Silver Lake, Highland Park, or Lincoln Heights, have experienced (Zuk and Chapple 2015b; McGeehan 2017). A walk around the neighborhood shows only a few physical signs of gentrification, primarily around the Mariachi Plaza station. A few residential buildings have signs of renovation, and one sees few newly constructed buildings.

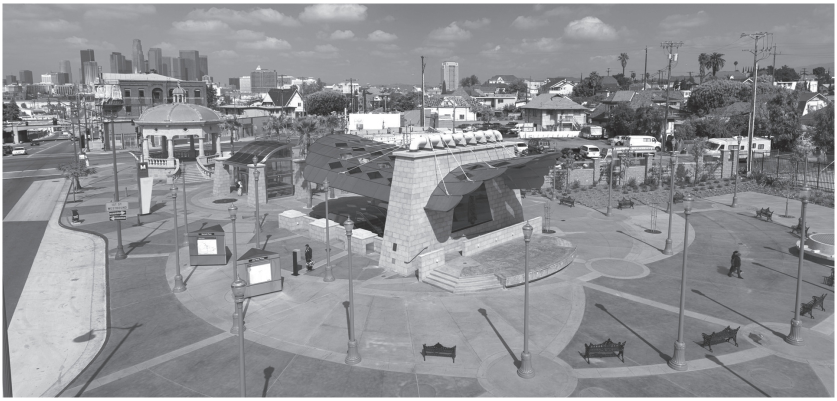
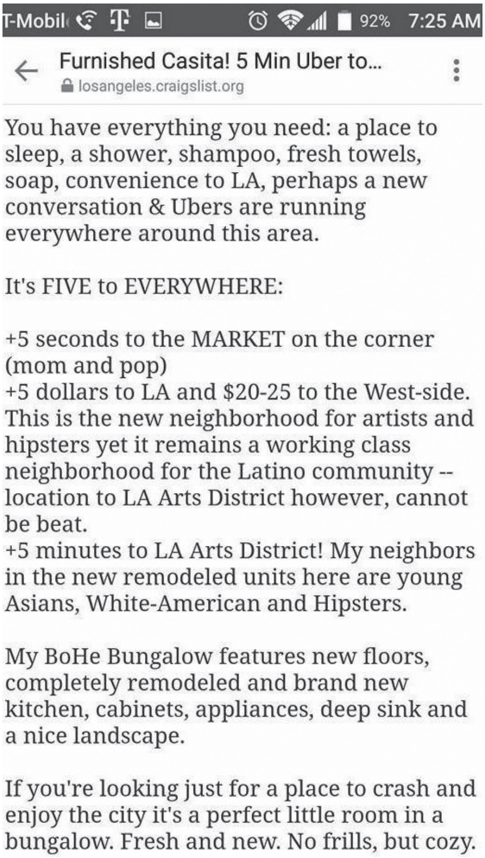


Figure 6.7
Mariachi Plaza: view from the station.
Source: Barrio Planners, Inc.

Census data show a neighborhood that is still heavily Latino (87 percent), low income, with 86 percent of its residents renters, 39 percent of whom are severely burdened by housing costs (spending at least 50 percent of their income on housing); but the data also reveal that from 2000 to 2013, affordable rental units in Boyle Heights decreased by 21 percent. Recent years have witnessed an even more dramatic change. According to the real estate website Trulia, the median value of a single-family home in Boyle Heights has increased 35 percent over the past three years, while the median rent has risen by more than 40 percent during the same time (quoted in McGeehan 2017). This is happening in an area that is supposed to be protected by rent control, where it is illegal for most landlords to raise rents by more than 3 percent per year. However, community-based groups reveal that many landlords use a variety of tactics—carrots and sticks—to force tenants to leave: offering "cash for keys" and a couple of months of free rent, or even threatening to report them to US Immigration and Customs Enforcement. In the meantime, Craigslist ads such as the one shown in figure 6.8 advertising a 490-square foot studio ("casita") in Boyle Heights for $1,600 per month are not uncommon; note the advertisement's emphasis on accessibility.

In Boyle Heights, a new generation of activists has put a clear line in the sand, pushing against gentrification and displacement. Instead of gentrification, they want to see "gentefication"—the return of younger, more



You have everything you need: a place to sleep, a shower, shampoo, fresh towels, soap, convenience to LA, perhaps a new conversation & Ubers are running everywhere around this area.

It's FIVE to EVERYWHERE:

+5 seconds to the MARKET on the corner (mom and pop)
+5 dollars to LA and $20-25 to the West-side. This is the new neighborhood for artists and hipsters yet it remains a working class neighborhood for the Latino community -- location to LA Arts District however, cannot be beat.
+5 minutes to LA Arts District! My neighbors in the new remodeled units here are young Asians, White-American and Hipsters.

My BoHe Bungalow features new floors, completely remodeled and brand new kitchen, cabinets, appliances, deep sink and a nice landscape.

If you're looking just for a place to crash and enjoy the city it's a perfect little room in a bungalow. Fresh and new. No frills, but cozy.

Figure 6.8
Ad on Craigslist.
Source: Craigslist.

well-to-do Mexican Americans, who come back to live and invest in their communities (Medina 2013). "Gente Si, Gentrify No!" has become the common slogan of many rallies in the neighborhood, but some argue that gentefication will not prevent the displacement of lower-income folks by a higher-income group, even if they are all coethnics. While the activists seem to have won some battles, forcing a few galleries to leave the neighborhood, one wonders about the effectiveness of such tactics in the absence of supportive antidisplacement policies to stop gentrification, which has started to spread through the region.

Hollywood/Western in East Hollywood: Gentrification Follows Development

While not much new development has taken place in Highland Park or East LA, the community of East Hollywood, especially around its Hollywood/Western Metro station, has become a hotbed for transit-oriented development in the last decade. The Hollywood/Western neighborhood is a mixed-use, very high-density area east of Hollywood and about six miles west of downtown. Starting as a farming community at the turn of the twentieth century, East Hollywood was annexed to the city of Los Angeles in 1910. Hospitals and a library were built in the 1910s, and Barnsdall Park, with Frank Lloyd Wright's Hollyhock House (designed for oil heiress Aline Barnsdall, who had donated the park to the city), was built in the late 1920s. While the park and a number of hospitals are still here, neighborhood sociodemographics today are much more diverse than in the early twentieth century. Beginning in the 1960s, immigrants from East Asia, Latin America, the former Soviet Union, and the Middle East started settling in. Today, the neighborhood around the Hollywood/Western Metro stop is home to two ethnic enclaves: Little Armenia and Thai Town. Non-Hispanic whites compose the largest racial group (51 percent), while Latinos represent 31 percent and Asians 11 percent of the residents.

The Hollywood/Western transit neighborhood has a substantial stock of multifamily housing and has witnessed significant development since the opening of the Metro Red Line station in 1999 (figure 6.9). The neighborhood also experienced a significant drop (23 percent) in its percentage of affordable housing stock from 2000 to 2013,[6] considerably higher than the 13 percent reduction in affordable housing units experienced by Los Angeles County as a whole. Ninety-four percent of the residents here are renters in multifamily buildings, and about 37 percent of them are severely burdened by the cost of housing, having to spend at least 50 percent of their income on rent.

In close proximity to downtown, sandwiched between areas that have already experienced high levels of gentrification, and with a Metro stop that is one of the busiest in the transit system, it is not surprising that East Hollywood has caught the attention of residential and commercial developers. A visit around the station shows clear signs of both residential and commercial gentrification. A number of new, large, mixed-use and residential buildings have popped up, indicating a transition in this neighborhood

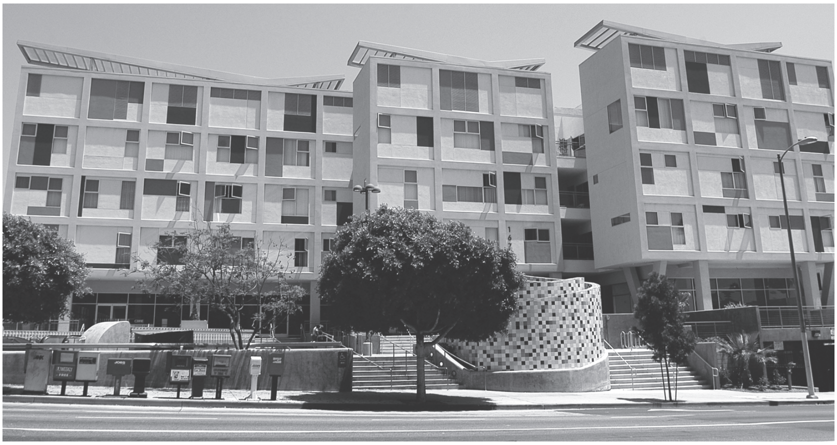


Figure 6.9
New development at Hollywood/Western, 2008.
Source: LA Metro.

from single-family and smaller multifamily buildings to larger apartment buildings, with commercial establishments catering to higher-income residents. Most of these buildings have no-trespassing signs and security cameras. In addition to the new TODs, one can also see multiple renovations. Realtors indicate that landlords are renovating their older apartments to appeal to younger and wealthier renters and homebuyers (PMI Properties 2015). One can also see upscale cafés, specialty gyms, yoga studios, and high-end grocery stores geared toward millennials, who are now the target renters. Some of these businesses occupy the ground floors of the new apartment buildings, while others have displaced existing commercial establishments, as in the case of the Squirl restaurant (figure 6.11), which has replaced the La Raza Market (figure 6.10).

Despite the new residential construction, East Hollywood lost population between 2000 and 2010, as about 5,000 Latino residents moved out, likely because of rising rents (McDonald 2013). The incoming new residents are mostly white and more educated. According to the census, from 2000 to 2013, the neighborhood witnessed a 9 percent increase in its white population, a 12 percent increase in its college-educated residents, and a simultaneous 14 percent decrease in people with less than a high school degree. Representatives of CBOs interviewed emphasized that the

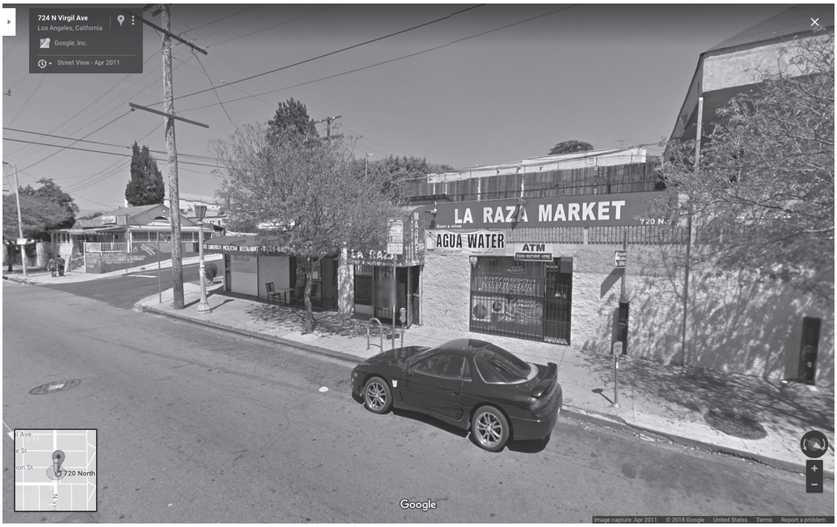


Figure 6.10
The former La Raza Market in East Hollywood. Image capture February 2017. ©2018 Google.

residential gentrification that this neighborhood is experiencing leads to displacement. According to an executive of the Coalition for Economic Survival, a tenants' rights advocacy group, "It was an economic tsunami that pushed low-income people out. There was massive displacement" (in McDonald 2013). According to another interviewee: "Real estate speculation is forcing long-term, low-income, primarily Latino, renters out of their neighborhood." An organizer from LA Voice (an interfaith local community group) estimated that 30 percent of a church's congregation has moved to the San Fernando Valley because of rising rents. Indeed, median rents have increased in this neighborhood by over 40 percent in the last few years.

Conclusion

Together, these cases illustrate forms and variations of neighborhood change, some of which confirm the quantitative models but others showing that the models fell short. In general, the cases are not inconsistent with the quantitative analysis, but they significantly expand the definitions of gentrification, displacement, and development as operationalized in the secondary data.

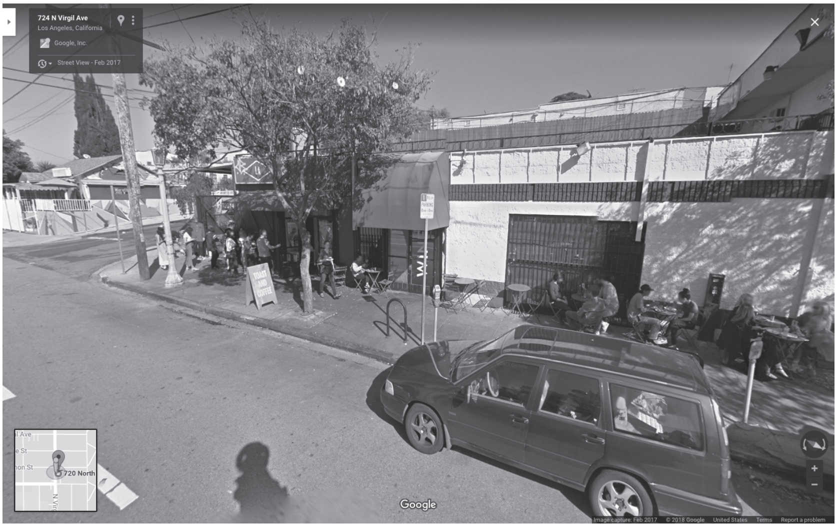


Figure 6.11
Squirl Restaurant in East Hollywood. Image capture April 2011. ©2018 Google.

Table 6.1 describes the six neighborhoods in relation to the gentrification, displacement, and development variables analyzed in chapter 5. How the neighborhoods perform on these indicators does not fully capture the reality on the ground. For San Francisco, secondary data did pick up that the Mission District has been experiencing gentrification over the long term, but outcomes in Redwood City and Diridon appear more mixed, with timing different from what our interviews suggest. Secondary data do verify that all three neighborhoods are gaining a lower number of low-income households, on average, than the region as a whole, and not surprisingly, both the Mission District and Redwood City are experiencing greater displacement, on average, than the region in terms of affordable rentals, while construction of new market-rate units for both lags the region. (Most of the new construction in Redwood City occurred after the 2013 end date in our secondary data.) However, the loss of affordable rentals is lower in Diridon than local accounts indicate. Both the Mission District and Diridon gained more low-income movers and federally subsidized housing than the region—a finding consistent with our quantitative analysis, which showed that low-income households move into transit neighborhoods when government programs subsidize units. In addition, confirming our primary

Table 6.1

Characteristics of case study neighborhoods

TOD area	Gentrified tracts 1990s	Gentrified tracts 2000–2013	Change in affordable rental units/tract	Change in Section 8 vouchers/ tract	Change in federally subsidized housing/ tract	Low-income movers in, 2009–2013/ tract	Change in low-income households, 2000–2013/ tract	New market-rate housing units, 1990–2013/ tract
The Mission District	4 of 10	5 of 10	–131	12	40	159	37	292
Redwood City	1 of 8	0 of 8	–115	38	24	107	45	171
San Jose/ Diridon	0 of 3	2 of 3	–39	16	41	165	37	814
SF Bay Area	81 of 1,580	89 of 1,580	–67	18	28	118	59	314
Highland Park	1 of 7	1 of 7	–452	6	7	80	1	NA
Boyle Heights	3 of 5	0 of 5	–270	7	72	135	136	NA
Hollywood/Western	0 of 8	1 of 8	–856	49	79	192	34	NA
LA County	81 of 2,345	82 of 2,345	–298	11	14	90	54	NA

research, Redwood City has underperformed in terms of providing subsidized housing (except vouchers). Thus, the story is generally consistent—but the numbers fail to capture the full array of dynamics.

In Los Angeles, we see that the three transit neighborhoods experienced significantly higher losses in affordable housing units than the three Bay Area neighborhoods. They also experienced higher losses on average compared to the losses of Los Angeles County as a whole. More specifically, Highland Park experienced 1.5 times the loss in affordable housing units relative to Los Angeles County (average declines of 452 units and 298 units, respectively), while the losses in affordable housing units in the Hollywood/Western neighborhood were even more dramatic, three times higher than those of Los Angeles County. Highland Park and Hollywood/Western, both experiencing gentrification pressures, have gained a significantly lower number of low-income households, on average, than the county as a whole, and, similar to the Bay Area, two of the Los Angeles neighborhoods (Boyle Heights and Hollywood/Western) gained, on average, more low-income movers than the county, while Boyle Heights and Hollywood/Western acquired more federally subsidized housing than the county did.

Reflecting on these cases leads us to the following observations.

Gentrification is a continuum rather than a binary process. The literature on gentrification for the most part conceptualizes the phenomenon as a binary process: either a neighborhood has gentrified or it hasn't. However, as it plays out on the ground, gentrification is a multistage process. Places with few signs of change may actually be in an early stage of gentrification, where investors have begun to prepare properties to house higher-income households. Neighborhoods that are clearly gentrifying may see change slow down or even reverse. Even when gentrification is well established, it may not be at an end; as pressure intensifies, properties continue to change hands and rents increase. Transit investment amplifies these dynamics. The long time frame for its planning allows investors to act quietly, its construction may put businesses into a tailspin, and ridership can multiply quickly as new destinations become accessible.

There is no linear relationship between gentrification and displacement. As noted in earlier chapters, much of the academic literature as well as the popular media frame the relationship between gentrification and displacement as linear: a neighborhood is disinvested and property values decline, it becomes attractive because of its amenities or location, higher-income households and investors begin moving in and buying up property, and eventually the existing community of low-income households and people of color are displaced from their neighborhoods of origin. While this may certainly be the case in some neighborhoods, the process may actually occur in reverse: displacement induced by either investment or disinvestment can in fact precede gentrification (Marcuse 1986). Occurring so long ago, it may be forgotten, as in the Diridon case—particularly if the neighborhood was stigmatized, as often happens with communities of color. Again, new transit is a perfect example: a new station may be planned for a disinvested area, where land costs are low. Until investors become aware of the new opportunities, disinvestment may continue, displacing residents. Then, property speculation and new investment displace the locals. Gentrification itself may not appear until well after the transit system is established.

The time horizon of neighborhood change is extensive. Popular media and residents often describe gentrification as change occurring at a rapid rate—property values rising, people selling homes, and longtime residents moving out can make it feel like neighborhoods are gentrifying overnight. The narrative of neighborhood change often extends back decades, however, stemming from the historic actions of cities and their transit or redevelopment agencies, which displaced vibrant, albeit low-income, communities of color, as well as the active disinvestment of the private sector. When we analyze change only over a 10-year period, we may significantly underestimate the magnitude of the phenomenon and the dynamics of displacement "chains."

Housing markets and neighborhood change are interrelated across the region. The prevailing narrative in strong market regions is that large swaths of their central cities are "at risk" for gentrification. Other regions are considered insulated from housing market pressures, especially if they lack the amenities and housing stock considered attractive to gentrifiers. However, neighborhood change occurs for a variety of reasons beyond consumer choice and current fashions. Simple demographic succession may set the stage for neighborhood transformation, as the dying out of a generation may make affordable stock available. Intraregional mobility and interconnected regional transit systems mean that no community's housing or job market is acting in isolation. Developers on the periphery follow price dynamics in the core, while displacement brings new residents to their market. As housing conditions worsen on the periphery, the prospects for realizing profit from the rent gap improve. Thus, the regional process of displacement makes it clear that reinvestment in one place works hand in hand with disinvestment in another, but just because the housing market is regional does not mean that a displaced household can move anywhere; exclusionary displacement may limit choices, particularly for communities that experience discrimination. The regional lens helps us understand displacement as a dynamic and long-term process rather than a singular event.

Gentrification may come with new development or without it. As the Highland Park neighborhood demonstrates, confirming findings in chapter 5, new development is not necessarily a prerequisite for gentrification. While upscaling of the built environment through physical retrofitting is a typical outcome of gentrification, this does not always involve the building of new, more upscale structures. Even without new development, the accessibility improvements of the new transit systems can spur gentrification. As the experience of the Bay Area illustrates, new transit station areas do not automatically generate TOD but instead require careful planning to assist and spur the market. Thus, neighborhoods like the Mission District have seen significant gentrification with hardly any new development at all.

The transit station is one of many factors that may contribute to gentrification. While all the cases presented in this chapter involve transit neighborhoods and transit stations, other variables may also contribute to gentrification. Larger regional dynamics, such as a region's housing situation and economy, neighborhood sociodemographic and physical characteristics and location, and the extent of public and private investment all play a role in gentrification processes. The narratives in this chapter thus explain why the transit variable had mixed results in some of the chapter 5 models.

Community antidisplacement activism is more effective if supported by antidisplacement policies. The strong reaction of a number of community-based organizations both in San Francisco and in Los Angeles against the prospects of gentrification and displacement in their neighborhoods sheds light on the plight of those who are being priced out, may sensitize some politicians, and may even delay new development. However, in a market-driven economy, there is little that can prevent property owners from selling their homes to well-paying developers. Therefore, a more comprehensive, regional strategy of housing production and tenant protection linked to transit investment is necessary, an issue that we will return to in chapter 10.

Gentefication may still lead to displacement. While most of the studies about gentrification and displacement examine neighborhoods that transform from lower-income, minority to higher-income, white demographics, it is primarily the economic (class) differential between gentrifiers and gentrified that produces displacement. In other words, higher-income minority groups can still gentrify and displace lower-income coethnics—a dynamic that may account for why race and ethnicity are not always significant in regression models, as in chapter 5. Gentefication may not lead to cultural transformation of a neighborhood, since it is higher-income individuals from the same culture as the existing groups that move into the neighborhood. However, similar to gentrification, gentefication also leads to physical upgrading and social upscaling.

7 Commercial Gentrification and Displacement

In commercial districts, gentrification and displacement are at their most visible. Few miss the intrusion of new businesses that force out favorite local stores because of higher rents, or the influx of hip cafés, trendy retail boutiques, and art galleries—places that change the meaning of a neighborhood for better or worse. For many merchants, commercial gentrification has implications for economic survival, as increased rents lead to displacement and business closures. At the same time, these changes may bring much-needed goods and services to residents of "retail deserts" (Schuetz, Kolko, and Meltzer 2012).

While researchers have given significant attention to the dramatic changes that residential gentrification and displacement bring, the phenomenon of commercial change remains relatively unexplored. This may be in part because business turnover—or churn—is a common sight, so the changes lack the novelty of residential displacement. Because of the understudied nature of commercial gentrification, interesting questions remain about its relationship with residential change as well as the role of transit investment in triggering such change.

As discussed in chapter 2, TOD investments have the potential to reduce transportation costs for residents, while increasing the value of land and property (Cervero et al. 2004). Furthermore, increased pedestrian traffic generated by transit riders and commercial development surrounding a station are thought to increase the number of customers, sales, and employees in commercial districts within transit neighborhoods (Litman 2017). At the same time, rising land values and subsequent higher rents associated with these neighborhoods could drive out local businesses, resulting in fewer shops and services that meet the budgets and/or cultural preferences of existing residents (Cranor et al. 2015). In recent years, research has emerged that highlights links between residential gentrification and the decline in some areas of small, ethnically owned businesses, calling into question the market such development seeks to serve and who benefits from the new commercial activity (Meltzer and Schuetz 2012; Ong, Pech, and Ray 2014).

This chapter casts light on commercial gentrification. First, we review research on the phenomenon, describing its causal mechanisms and forms. Next, we establish an operational definition of commercial gentrification based on four objective parameters. Lastly, we turn to empirical inquiry, using both quantitative and qualitative research to examine the relationship between commercial gentrification and fixed-rail transit in Los Angeles and in the San Francisco Bay Area.

What Do We Know about Commercial Gentrification?

Although literature on commercial gentrification is scarce, the phenomenon has been documented internationally in five continents: Australia (Bridge and Dowling 2001); China (Zheng and Kahn 2013; Zukin, Kasinitz, and Chen 2015) and South Korea (Lim et al. 2013) in Asia; the Netherlands (Doucet 2014), Spain (Janoschka, Sequera, and Salinas 2014), the United Kingdom (Hamnett and Whitelegg 2007; Dines 2009; Percival 2009; Ferm 2016), and Istanbul, Turkey (Ergun 2004) in Europe; Latin America (Janoschka, Sequera, and Salinas 2014; Schlack and Turnbull 2015); and Canada (Burnett 2014) and the United States (Zukin, Kasinitz, and Chen 2015) in North America. The following sections review mechanisms of commercial gentrification, different types of commercial gentrification, its potential effects, and its empirical indicators.

As Lim et al. (2013) point out, commercial gentrification highlights the production of urban space generally for the benefit of more affluent users. Just as residential gentrification is more complicated than a simple back-to-the-city movement of middle-class couples (see chapter 3), commercial gentrification involves a variety of actors. Leading the transformation are not just the usual growth machine suspects—developers, politicians, banks, the media, and so on (Logan and Molotch 1987)—but also commercial firms (Kloosterman, Van Der Leun, and Rath 1999; Zukin and Kosta 2004). Likewise, commercial gentrification affects a variety of neighborhood types, transforming not just commercial districts but also residential and industrial areas.

In many instances, commercial gentrification manifests as the displacement of industrial businesses. This "industrial displacement" often flies under a community's radar when it is less visible. Consider an industrial warehouse that is converted into a hip brewery. Activity changes in the building's interior, but there are few visible changes to the exterior. There is also no obvious arena in which the industrial tenant of the warehouse can protest and, in any case, city officials may welcome the "highest and best" land use, replacing an unproductive industrial firm with a more profitable commercial use (Zukin 1982a; Curran 2007; Lim et al. 2013).

Mechanisms of Commercial Gentrification

What mechanisms prompt commercial gentrification? Hackworth and Rekers (2005) outline two competing theories of gentrification: cultural (demand) and economic (supply). According to the cultural explanation, which focuses on consumption, commercial gentrification is seen "as a spatial expression of critical class politics," where "neighborhoods gentrify because tastes and preferences have changed" (Hackworth and Rekers 2005, 213). Other cultural explanations center on race and ethnicity, specifically the desire of both entrepreneurs and consumers to capitalize on the cultural authenticity of communities of color (Zukin et al. 2009; Hyra 2017). Nevertheless, demand from consumers may be constructed in part from the supply of real estate and the ability to capitalize on the rent gap. These factors interact; for instance, Zukin, Kasinitz, and Chen (2015) attribute the production of "shopping streets" to the interwoven motivations of shopkeepers, building owners, and shoppers.

It is difficult to unpack the mechanism by which commercial gentrification relates to residential gentrification or which (if either) comes first. Indeed, changes in commercial districts have been noted as both a causal factor of and an outcome of residential demographic change (Chapple and Jacobus 2009). Rather than sort out this "chicken and egg" question, Zukin, Kasinitz, and Chen (2015) suggest that commercial and residential gentrification work together and are complicated to disentangle. Other researchers also consider the two together. For instance, after analyzing the impacts of subway systems in Beijing, Zheng and Kahn (2013) identified an increase in both new housing and restaurant establishments around station areas. Examining gentrification in Istanbul, Ergun (2004) noted the simultaneous transformation of historic buildings to residential, commercial, or cultural uses.

Setting aside the directionality of residential and commercial gentrification for now, the literature identifies two market-driven mechanisms related to increases in the price of urban land that drive commercial gentrification: changes in the consumer base and the increased cost of doing business. Meltzer (2016) theorizes that changes in the consumer base brought about by residential gentrification lead to changes in local patrons and increases in the cost of doing business. In an analysis of how retail reinvestment might lead to neighborhood revitalization, Chapple and Jacobus (2009) show that changes in the demographic composition of residential neighborhoods in the San Francisco Bay Area resulted in significant shifts in the mix of commercial establishments. In cities in advanced industrialized countries, the nature of consumer shifts seems to be toward a new, affluent consumer type that seeks out environmentally friendly, cultural/ethnic, and "authentic" commercial districts (González and Waley 2013; Zukin, Kasinitz, and Chen 2015), but even within this type, there is considerable variation, resulting in what Bridge and Dowling (2001) call "micro retailscapes." Further complicating new consumption patterns is global migration, which results in a tremendous diversity of goods and services being available on lively shopping streets in Shanghai, Amsterdam, New York, Berlin, Toronto, or Tokyo, among other places, and brings a new influx of retail activity (not necessarily upscale) to low-income neighborhoods (Zukin, Kasinitz, and Chen 2015).

The literature shows that the mechanisms of commercial gentrification are indeed largely market driven, with the possibility that they are triggered by public investments that make a neighborhood more accessible or appealing. These could include parks, streetscape improvements, or transit access, as this chapter explores.

Types of Commercial Gentrification

There seems to be considerable overlap among types of commercial gentrification identified in the research. Although this list is by no means exhaustive, we find at least four categories discussed: retail upscaling, tourism gentrification, art districts, and transit-oriented districts. These types of gentrification may follow deliberate development strategies on the part of the public sector. Commercial gentrification, however, may also appear more informally and incrementally. Describing the transformation of Santiago's residential neighborhoods into commercial destinations, Schlack and Turnbull (2015) note the occurrence of "spontaneous gentrification," in which individual entrepreneurs gradually transform an area without significant new public investment or branding.

The most commonly documented type of commercial gentrification is a change to the retail composition of an area, or "retail upscaling." As in residential gentrification, upscaling entails a new type of consumer being attracted to the area, often for cultural reasons. Ironically, the key attraction of the area for entrepreneurs may be because it is a community of color, dominated by a particular racial or ethnic minority—but the new establishments themselves are incongruous or even dissonant with the historic character and community. This includes the process of "boutiquing" streetscapes (Zukin et al. 2009) and the appearance and proliferation of a particular selection of products and services that appeal to higher-income consumers; for example, organic, gourmet, or environmentally friendly goods (Sullivan 2014). As middle-class families increasingly choose to remain in the city, upscaling may extend to family-related consumption as well (Karsten 2014). Studies have shown that the upscaling of the retail sector in some neighborhoods can diminish shopping opportunities for long-term residents by catering to the needs of new, more affluent residents and creating a sense of exclusion through symbolic racial, class, or age boundaries (Bridge and Dowling 2001; Zukin et al. 2009; Burns, Lavoie, and Rose 2012; Cheshire 2013). However, whether an establishment or area has "upscaled" depends on the beholder; when interviewing long-term local pub patrons in Amsterdam, Ernst and Doucet (2014) found them impervious to gentrification occurring around them.

Tourism gentrification is a type of commercial gentrification that appears when business interests seek to market ethnic cultures or aestheticize poverty for profit-generating purposes (Gotham 2005; Hackworth and Rekers 2005; Burnett 2014). A study of four ethnic neighborhoods in Toronto found that the packaging and marketing of the ethnicity of these neighborhoods by local business improvement districts (BIDs) for consumption by tourists and visitors—whether deliberate or not—increased the prices of neighborhood properties (Hackworth and Rekers 2005). Examining Little Italy neighborhoods around the United States, Terzano (2014) found that their "commodification" and commercial gentrification led to a decline in the long-standing ethnic populations, an increase in the number of restaurants targeting tourists and newcomers, and a decrease in the number of grocery stores that served ethnic residents. Similarly, in Canada, Burnett

(2014) documented how Downtown Eastside Vancouver, previously marked by a history of poverty and homelessness, became a dining destination, creating new spaces of consumption and transforming the neighborhood. Burnett (2014, 157–158) argued that “the presence of poor and marginalized residents has become a competitive niche for the promotion of distinctive and authentic culinary adventures,” but one outcome of this “poverty tourism” was the displacement of existing residents and businesses. Similarly, in a study of eight neighborhoods in or adjacent to the major tourist zone in post-Katrina New Orleans, Gotham (2005) found that the proliferation of corporate entertainment and tourism venues over the last two decades in the French Quarter has transformed this diverse, middle-class neighborhood into an affluent and exclusive enclave and has pushed out low-income, African American households.

Tourism gentrification can be led by private developers, corporate interests, and also municipalities hoping to attract tourist dollars by marketing a neighborhood’s ethnic identity (Bell 2007; Gladstone and Préau 2008). As Janoschka, Sequera, and Salinas (2014) noted in their research on Latin America, the experience of many places in that region complicates the idea of tourism gentrification; the reconfiguration of urban space for tourism isn’t only about new forms of consumption but is also about wholesale economic restructuring and the downgrading of labor in the knowledge economy.

A special type of commercial gentrification may occur through the designation of arts districts. These typically begin as locations where low-income artists find affordable places to live and work, but they often later result in the commodification of art and culture by business interests. Rent increases and displacement of low-income residents and artists can follow. In seeking to attract a creative class of consumers (Florida 2002), municipalities frequently support art district designations. In Los Angeles, for example, a downtown arts district was developed to draw tourist dollars, spark retail growth, and attract other artists as residents or commercial stakeholders (Collins and Loukaitou-Sideris 2016). In Oakland, the city formalized an informal arts district in order to spur downtown redevelopment (Chapple, Jackson, and Martin 2010). Shkuda (2013, 2015) argues that government funding for the arts and the art market is central to commercial gentrification in neighborhoods such as New York’s SoHo, but it is also the sweat equity of artists themselves—the “artist as developer”—that draws other artists, consumers, and tourists, eventually producing "the customer base for area retail" and giving these places a distinctive commercial landscape (Shkuda 2013, 601). This constitutes a form of "institutionalized cultural production," in which urban policies essentially support new lifestyles—and thus models of citizenship and conduct—in an expression of neoliberal control (Janoschka, Sequera, and Salinas 2014).

In reviewing research more closely related to our subject of transit access and commercial gentrification, we found that although mixed land uses and retail opportunities are a key part of TOD, studies on the relationship between retail change and transit investments are only now emerging. As was discussed in chapter 2, most research to date has focused on the relationship between rail proximity and commercial property values (Cervero and Duncan 2002b) or commercial building permit activity (Guthrie and Fan 2013), finding positive associations. This may imply retail gentrification, but most studies do not make this link explicit. Another study explored whether new rail stations in California resulted in changes in retail employment, and found little evidence of such a relationship (Schuetz 2014).

Some researchers have found relationships between commercial gentrification and transit-based accessibility improvements. Ong, Pech, and Ray (2014) examined transit-induced commercial gentrification in Los Angeles County, finding that growth in Asian and small commercial establishments located in transit neighborhoods lagged behind the county average, despite the fact that real estate activity was higher in transit areas. In San Francisco's Mission District, researchers found a simultaneous rise in the number of establishments operating regionally and a decline in establishments serving the local market, as well as a higher rate of closure of Hispanic-owned businesses compared to other businesses (Center for Community Innovation 2014). In Los Angeles, researchers studying six transit neighborhoods found different degrees of commercial gentrification among them, suggesting that commercial gentrification may occur in patterns similar to those of residential gentrification, appearing in certain neighborhoods but not in others (Cranor et al. 2015). In Beijing, researchers found that the construction of two subway systems generated new private chain restaurants in the vicinity of stations (Zheng and Kahn 2013). Despite these uncovered links, there is little understanding of the characteristics of transit neighborhoods that may be conducive to commercial gentrification.

Benefits and Losses from Commercial Gentrification

Commercial gentrification produces critical trade-offs for local residents and businesses. Although gentrification is often described in negative terms because it can lead to displacement, commercial changes can also be characterized as neighborhood or retail revitalization (Chapple and Jacobus 2009). So who benefits and who suffers from commercial gentrification? Can a neighborhood's retail access increase? Does local employment increase?

Only a few studies have explored the impacts of commercial gentrification, and they have produced mixed results. One study of retail change in residentially gentrifying neighborhoods of New York City found that retail access improved at a notably higher rate in low-income neighborhoods that had experienced gentrification (Meltzer and Schuetz 2012). The authors noted that low-income neighborhoods typically have lower densities of retail establishments and employment, smaller-sized businesses, less diverse retail composition, and fewer chain stores and restaurants than more affluent neighborhoods. Commercial gentrification thus could help irrigate the "retail desert" landscape in low-income neighborhoods, bringing much-needed retail diversity. Indeed, while interviewing mostly African American residents of changing neighborhoods in New York City, Freeman (2006) found that most lauded the return of supermarkets and drugstores rather than lamenting an invasion of restaurants and expensive boutiques; still, Freeman noted the deep ambivalence of some residents, a finding also echoed in interviews with nongentrifying pub customers in Amsterdam (Ernst and Doucet 2014). These accounts suggest that as long as gentrification does not lead to widespread displacement, it could help enhance the socioeconomic, racial, and ethnic integration of neighborhoods.

On the other hand, some scholars doubt that commercial gentrification benefits existing residents, arguing instead that residents have little use for goods and services they cannot afford (Cheshire 2013). A study of six gentrifying transit neighborhoods in Los Angeles indicated that the rising land values and rents associated with TOD resulted in an increasing number of boutique retail stores that often do not meet the budgets and cultural preferences of existing residents (Cranor et al. 2015). After examining overall retail establishment growth in the San Francisco Bay Area, Chapple and Jacobus (2009) produced mixed findings, observing that this growth was associated more with neighborhoods becoming middle or upper income—or even just becoming poorer—than it was with gentrifying neighborhoods. The authors speculated that gentrifying areas send mixed messages about market trends to retailers, discouraging them from entry.

Moreover, accounts of resistance to state-led gentrification of commercial areas suggest that external visions for regeneration may conflict with local attachment to place and rely on a vision of "progress" that excludes vital existing businesses (see, for instance, Dines 2009 and Ferm 2016 on London). After decades of state-led devalorization of neighborhoods through redlining and disinvestment, newly arrived commercial entrepreneurs can exploit the rent gap by opening up in the retail desert—a double punch to communities of color.

Another pertinent question relates to the employment effects of commercial gentrification. Does gentrification lead to more jobs for local residents? Focusing on New York City neighborhoods, Meltzer and Ghorbani (2017) found that the employment effects of gentrification were "very localized." Even though the total number of jobs increased in commercially gentrifying neighborhoods, local residents lost jobs within their home neighborhood. Local business owners may be winners in these situations, however; several studies describe how immigrant entrepreneurs benefit from locating in improving neighborhoods (Kloosterman Van Der Leun, and Rath 1999; Zukin, Kasinitz, and Chen 2015).

When it comes to local businesses, the literature seems to suggest that gentrification may have positive effects on some but not others. As a neighborhood's consumer income and population density increase, business sales for some types of commercial establishments may also increase, because of more customers and more disposable income. A different consumer base, however, may result in different consumer tastes and stagnant or falling sales for certain existing businesses (Meltzer 2016), and while commercial gentrification may result in the creation of new businesses, potentially underwritten with greater capital investment, the process could also lead to stiffer competition. While this may be beneficial for consumers, if it leads to lower prices and greater choice, it could produce challenges for businesses that are further exacerbated by increased startup and/or operating costs because of the appreciation of property values and rent increases (Meltzer 2016). These increasing property values may, in turn, halt new local business startups and displace existing establishments if appreciation is not accompanied by cost-offsetting revenue gains. These pressures, however, may take time to materialize, given that commercial leases are typically of longer term than residential leases, keeping commercial rents down while residential rents appreciate (Meltzer 2016). Evidence from two studies points to the decline of small, ethnically owned businesses (Meltzer and Schuetz 2012; Ong, Pech, and Ray 2014) in commercially gentrifying neighborhoods, implying a certain level of race- and class-based displacement.

In summary, the academic literature has only just begun to explore commercial gentrification. Much about the phenomenon is not yet fully understood, including what effects it can be expected to have on residents or businesses and how these may differ depending on the socioeconomic context of the neighborhood and businesses involved. Additionally, there is almost no literature inquiring about any possible connections between commercial gentrification and investment in transit infrastructure. This dearth of research sets the stage for the work presented in this chapter, as we believe the centrality of TOD to contemporary planning practice makes its effects on station-area business communities even more important to understand.

Empirical Indicators of Commercial Gentrification

There is no consensus in the literature on how to define commercial gentrification. This is partly because commercial gentrification is context-specific and takes different forms; certain factors indicate its presence in some areas but not in others. It is also caused by a general lack of data on business turnover; there are no publicly available panel (longitudinal) data on business dynamics. This section reviews the most commonly identified indicators of commercial gentrification while recognizing that some aspects of this phenomenon may be difficult to measure or are inherently subjective and context-specific. Commonly identified indicators track both business dynamics and upscaling: (1) increased establishment turnover (churn) and decreased retention; (2) disproportionate negative impacts on minority-owned establishments; (3) appearance and proliferation of "signal" establishments appealing to particular consumer groups; and (4) opening of chain stores along with a decline in small businesses.

Commercial gentrification is characterized by an influx of capital that manifests itself in changes to commercial establishments on the ground. These changes can be recorded quantitatively as turnover of existing businesses (often called churn), changes in the number of business establishments, and/or adaptation of existing businesses to survive increasing rents and operating costs. A 2016 study by Meltzer and Capperis used longitudinal business data to examine the relationship of churn with types of business activity, commercial infrastructure, and consumer profiles of a neighborhood. The authors defined retail business churn as the sum of all moves into and out of a neighborhood divided by the midpoint number of retail establishments over a time period. The study found that "consumer-related characteristics explain turnover more than those related to the local commercial environment," identifying consumers as those living within a neighborhood census tract (Meltzer and Capperis 2016, 2).

Low rates of business retention might also serve as an indicator of commercial gentrification, based on the notion that existing neighborhood businesses would have a difficult time keeping up with rising rents in commercially gentrifying neighborhoods and would be forced to give way to newer, better-capitalized establishments. However, Meltzer (2016) found that in New York City, business retention rates were quite similar across gentrifying and nongentrifying neighborhoods.

Commercial change has also been measured using density of establishments, density of employment, and diversity and size of establishments (Chapple and Jacobus 2009; Meltzer and Schuetz 2012; Schuetz, Kolko, and Meltzer 2012; Dalal and Goulias 2014; Ong, Pech, and Ray 2014; Plowman 2014; Schuetz 2014), although not necessarily in the specific context of commercial gentrification.

Small businesses are considered an important entrepreneurship vehicle for minority and immigrant populations (Sutton 2010). Commercial gentrification may harm these minority-owned businesses through shifting consumer bases and/or rising rents, as documented in San Francisco and Los Angeles (Center for Community Innovation 2014; Ong, Pech, and Ray 2014). Thus, we consider a decline in minority-owned establishments a reliable indication of commercial gentrification.

Commercial gentrification may lead to a proliferation of certain types of retail (sometimes called "signal" establishments) selling luxury goods to higher-income groups and also lead to the disappearance of other types of commercial businesses. A list of these luxury (or nonessential) establishments that may indicate commercial gentrification is often produced in the literature using North American Industry Classification System (NAICS) codes[1] or another establishment-type classification (Meltzer and Schuetz 2012; Center for Community Innovation 2014; Plowman 2014; Schuetz

2014). Meltzer and Capperis (2016) used a particularly effective NAICS code classification to divide establishments into “necessary,” “discretionary,” “frequent,” and “infrequent,” with “infrequent” and “discretionary” businesses serving as their “signal” establishments. They defined “necessary” establishments as businesses that fulfill everyday, immediate needs of residents: grocery stores, gas stations, and hardware stores, for example. “Discretionary” establishments were defined as those that “provide more luxury or recreational services or goods that are not considered basic, but certainly enhance quality of life” (Meltzer and Capperis 2016, 9). These included specialty food, wine, and home furnishing stores. “Frequent” stores were considered those that provide “frequently consumed and/or perishable goods, whereby short travel times are essential to their appeal” (Meltzer and Capperis 2016, 10). These include restaurants, banks, laundromats, and pharmacies. Lastly, “infrequent” establishments were those businesses that have market share outside local neighborhoods, offering items such as furniture, clothing, and recreational goods. The four aforementioned categories compose a “hierarchy of local services,” whereby frequent and necessary establishments contribute to a neighborhood’s well-being by serving a broad market that cuts across income classes, while infrequent and discretionary establishments (their signal establishments) offer “local luxuries” catering to high-income groups. The researchers found that frequent and necessary establishments have higher retention rates than those of discretionary and infrequent establishments, suggesting that they are less susceptible to shocks and changes in consumer demand. These distinctions suggest that decreasing shares of frequent and necessary establishments, or increasing shares of discretionary and infrequent establishments, could indicate commercial gentrification (Meltzer and Capperis 2016).

In addition to specific commercial uses corresponding to commercial gentrification, some research suggests that establishment size and presence of chain stores could also differ between commercially gentrifying and noncommercially gentrifying neighborhoods. Many have noted that small businesses are vulnerable to being replaced by chain stores, a process seen as occurring more commonly in gentrifying neighborhoods (Basker 2005; Neumark, Zhang, and Ciccarella 2008; Haltiwanger, Jarmin, and Krizan 2010). Meltzer and Capperis (2016) found that chains are better capitalized than independent operators are and more likely to enter neighborhoods with lower housing prices and higher-income households. Zukin et al. (2009, 62) found that once gentrification processes kick in and population density increases, "chain stores open, bidding up rents above the level many of the pioneers can afford." The same study found that since the 1990s, New York's gentrifying neighborhoods have seen the share of small chain boutiques significantly increase, while the share of large chain stores has only increased somewhat. In New York City, Meltzer (2016, 14) showed that gentrifying neighborhoods are more likely to attract chains to replace displaced businesses. However, her definitions of small business and chain stores were broad, as she defined small businesses as having fewer than 100 employees and chain stores as those "linked to at least one other establishment through a common headquarters."

Defining Commercial Gentrification

A single simple definition of commercial gentrification is elusive because it can be described in so many ways. For our empirical work in the Bay Area and Los Angeles, we wanted to identify which census tracts with commercial land uses were experiencing commercial gentrification. With access to proprietary panel data on business change over time by detailed industry type, we were able to analyze which census tracts have experienced commercial gentrification over time. However, several factors constrained our analysis. First, we worked at the census tract level in order to link to variables measuring demographics and residential gentrification. This approach is problematic because commercial districts often consist of only a few blocks or take the form of corridors cutting across several tracts, making the tract a rather crude unit of analysis. Second, our dataset was not able to either account for changes in rents or measure qualitative changes in goods and services provided.

We began by defining the commercial districts where gentrification may occur. We defined commercial districts as census tracts with either a density of commercial establishments greater than the regional median (definition a) or a commercial lot area ratio greater than the regional median. This definition encompasses districts in different settings, from city to suburb (definition b).[2]

Drawing on the literature about indicators of commercial gentrification outlined here, we created a composite "commercial gentrification index" for each commercial census tract, which captured both business longevity and upscaling, and considered the census tracts at the top 20 percent of this index as being commercially gentrified. The commercial gentrification index was the sum of four subindices:[3]

1. Infrequent establishment churn index: the rate at which infrequently patronized businesses move into and out of the census tract. Higher churn rate denotes more commercial gentrification.
2. Discretionary establishment churn index: the rate at which discretionary businesses move into and out of the census tract. Higher churn rate denotes more commercial gentrification.
3. Minority-owned establishment share difference index: the change between 1990–2000 and 2000–2013 in the share of minority-owned businesses in the census tract. A loss of minority-owned businesses indicates commercial gentrification.
4. Nonchain small business share difference index: the change between 1990–2000 and 2000–2013 in the share of nonchain small businesses in the census tract.[4] A loss of small businesses indicates commercial gentrification.

We chose to weight the last two indices three times higher than the first two indices, given the prominent place that minority-owned and chain businesses hold in most contemporary conceptions of commercial gentrification. Such weighting is supported by the gentrification literature, which emphasizes the salience of race and ethnicity in commercial neighborhood change (Sutton 2010; Center for Community Innovation 2014; Ong, Pech, and Ray 2014) and the strong role that chain businesses play in commercial district change (Basker 2005; Neumark, Zhang, and Ciccarella 2008; Zukin et al. 2009; Haltiwanger, Jarmin, and Krizan 2010; Meltzer 2016; Meltzer and Capperis 2016).

Using the preceding definitions and commercial gentrification index yielded 131 commercially gentrified census tracts in the Bay Area from 1990 to 2013, which amounted to about 8 percent of all tracts, and 227 commercially gentrified census tracts in the same time period in Los Angeles, or approximately 10 percent of all tracts. Figures 7.1 and 7.2 show the census tracts in the Bay Area and Los Angeles County, respectively, that are considered commercially gentrified in the 1990–2000 and 2000–2013 time periods according to our definitions.

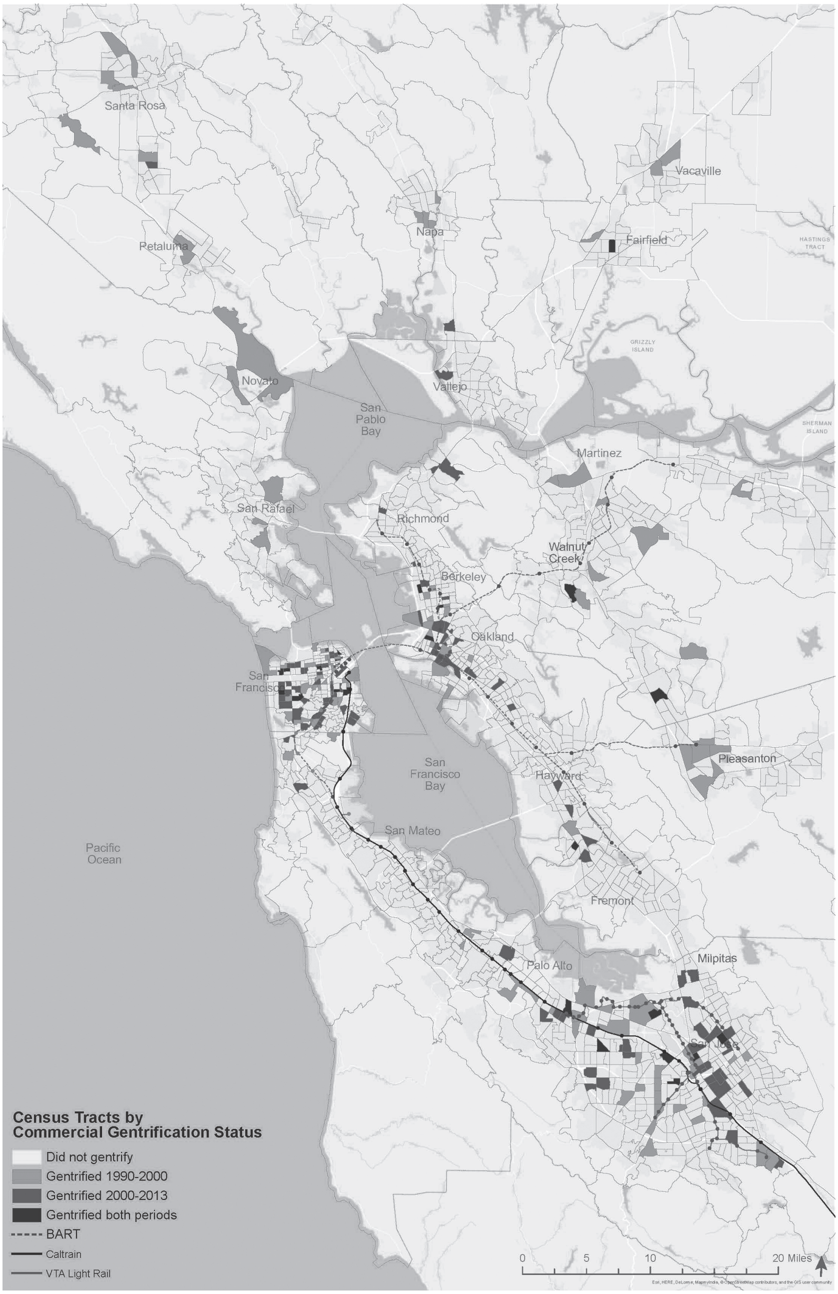

Santa Rosa
Vacaville
Napa
Fairfield
Petaluma
HASTINGS TRACT
GRIZZLY ISLAND
Novato
Vallejo
San Pablo Bay
SHERMAN ISLAND
Martinez
San Rafael
Richmond
Walnut Creek
Berkeley
Oakland
San Francisco
Pleasanton
San Francisco Bay
Hayward
San Mateo
Pacific Ocean
Fremont
Palo Alto
Milpitas
San Jose
Census Tracts by Commercial Gentrification Status
Did not gentrify
Gentrified 1990-2000
Gentrified 2000-2013
Gentrified both periods
BART
Caltrain
VTA Light Rail
0
5
10
20 Miles
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Figure 7.1

Commercial gentrification in Bay Area census tracts, 1990–2013.

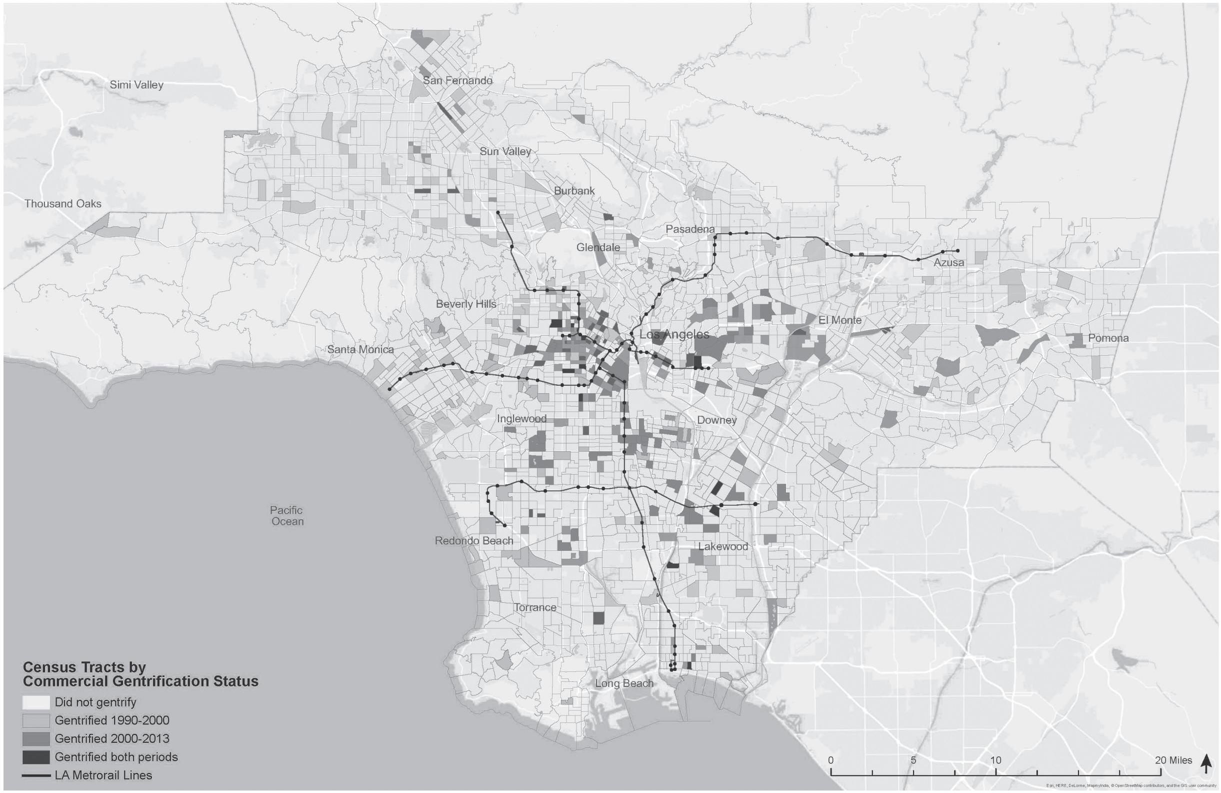

Simi Valley
San Fernando
Sun Valley
Thousand Oaks
Burbank
Pasadena
Glendale
Azusa
Beverly Hills
El Monte
Los Angeles
Pomona
Santa Monica
Inglewood
Downey
Pacific Ocean
Redondo Beach
Lakewood
Torrance
Long Beach
Census Tracts by Commercial Gentrification Status
Did not gentrify
Gentrified 1990-2000
Gentrified 2000-2013
Gentrified both periods
LA Metrorail Lines
0
5
10
20 Miles
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Figure 7.2

Commercial gentrification in Los Angeles census tracts, 1990–2013.

The Role of Rail Transit in Commercial Gentrification

Little research to date has addressed the relationship between rail transit and commercial gentrification and displacement. In theory, a new transit station might have several transformative impacts on a commercial district. By creating a new transportation node, the transit service will bring new customers to the area, who may be combining shopping trips together with trips for work or school. The enhanced accessibility may attract new residents to the area, and the process of constructing the transit station and related infrastructure brings new public investment for business. Altogether, area density may increase, which creates possibilities for attracting new businesses.

To test whether there is any relationship between the presence of a transit station and commercial gentrification in a neighborhood, we focused on the San Francisco Bay Area and Los Angeles County. We constructed two regression models—one for the Bay Area and the other for Los Angeles County—to identify which of a number of variables in a commercial district (census tract) may predict commercial gentrification. One of these variables was the presence or absence of a railway station, while other factors included demographic and built environment characteristics of the census tract (see table B.1 in Appendix B). The Bay Area model included the 628 commercial census tracts, while the Los Angeles County model included 1,082 commercial census tracts. Interestingly, our analysis did not find transit stations to be significant predictors of commercial gentrification in either region. Rather, factors associated with urban form and market characteristics emerged as most important.

In the Bay Area, the regression model found six variables significant in predicting commercial gentrification (see tables B.2 and B.3 in Appendix B). More specifically, a Bay Area neighborhood with a greater percentage of African American residents, greater percentage of foreign-born residents, greater percentage of college-educated residents, smaller percentage of renters, higher population density, and high intersection density was more likely to become commercially gentrified over the course of approximately one decade.

In Los Angeles, the regression model indicated nine variables as significant in predicting commercial gentrification (see tables B.4 and B.5 in Appendix B). Among them, lower employment density, lower street intersection density, lower median household income, and lower percentage of renters in 2000 predicted commercial gentrification a decade later, along with higher percentage of units built before 1950, population density, percentage of African American residents, and percentage of foreign-born residents. Furthermore, experiencing residential gentrification (or adjacency to residential gentrification) in 2000 also predicted commercial gentrification a decade later.

Thus, as in chapter 5, where the quantitative analysis did not find a simple linear and positive relationship between the presence of a transit station and residential gentrification, regression modeling did not find strong evidence for the influence of transit stations on commercial gentrification. We also found that residential gentrification significantly predicts commercial gentrification in Los Angeles but not in the Bay Area, corroborating understandings of commercial and residential gentrification as context-specific phenomena.

Future research should interrogate these dynamics further. For now, we can only speculate on the difference between the two regions. Three possible explanations stand out, on both the cultural (demand) and economic (supply) sides. First, though both regions are ethnically diverse, Los Angeles is particularly well known for its ethnic enclaves. It is possible that its tight-knit, ethnically based commercial districts were particularly sensitive to disruption and changes in the residential composition of adjacent neighborhoods. Second, San Francisco is, relatively speaking, a stronger real estate market than Los Angeles, so the real estate industry may have more confidence about investing in commercial areas prior to significant residential gentrification. Finally, as described in chapter 6, San Francisco began experiencing gentrification years—if not decades—before Los Angeles did, so it is possible that the additional gentrification that occurred in the 1990s did not reshape commercial districts significantly.

Four variables were significant in both Los Angeles and the Bay Area: population density, percentage of African Americans, percentage who are foreign-born, and percentage who are renters. Although the magnitude of the effect of these four variables was different in the two regions, the direction of association was the same, suggesting that these may be generalizable factors contributing to commercial gentrification, at least in high-cost and demographically diverse US metropolitan areas. Certainly, these results confirm the findings of case study research that associates retail upscaling with the "boutiquing" of racial and ethnic communities rich in cultural capital (e.g., Zukin et al. 2009).

The statistical analysis also indicated some differences in the two regions. For example, street intersection density was a strong negative predictor of commercial gentrification in Los Angeles but a strong positive predictor of commercial gentrification in the Bay Area. This difference reflects the difficulty of measuring and analyzing commercial gentrification across regions with different built environment characteristics while also highlighting the context specificity of the phenomenon. In the Bay Area, high intersection density may indicate short blocks and a walkable urban form, which may be encouraging commercial gentrification there, while in the more automobile-oriented Los Angeles, high intersection density may imply less traffic safety and hence a lower degree of walkability.

Transit station areas, many of which include TOD, are not more likely than other types of areas to produce commercial gentrification and displacement. However, the relatively small number of census tracts proximate to rail transit that were used for these regressions (182 in the Bay Area and 143 in Los Angeles) may play a role in the lack of significance of the results. It is certainly possible that a change in the number of transit stations—or new changes in consumption habits—could affect the significance and magnitude of the relationship between transit and commercial gentrification. With the rise of e-commerce, retail is changing rapidly. For these reasons and others, researchers should continue to monitor this issue.

The Chicken and Egg Question: Did Residential or Commercial Gentrification Come First?

Is an influx of new investment and higher-income households in the neighborhood likely to be followed by more upscale retail, or is the entrance of upscale or "yuppie" establishments (coffee shops, art galleries, etc.) likely to trigger residential gentrification? As reviewed earlier, although the literature points to an association between residential and commercial gentrification, the direction of the relationship is unclear. To clarify this issue, we examined whether tracts that had gentrified residentially, or were adjacent to tracts that had gentrified residentially in the previous decade, were more likely to experience commercial gentrification. We included adjacent tracts in our inquiry to account for neighborhood gentrification "spillover," whereby a gentrified neighborhood begins to affect an adjacent neighborhood by virtue of geographic proximity.

As noted, residential gentrification in one decade predicts commercial gentrification in the next in Los Angeles but not in the Bay Area. This suggests that residential gentrification may precede commercial gentrification in some contexts but is not a necessary precondition. What about the reverse? Might commercial gentrification actually precede residential gentrification? In Los Angeles, commercial gentrification (or adjacency to a commercially gentrified tract) in 1990–2000 was not a significant factor predicting residential gentrification in the next decade. In the Bay Area, on the other hand, commercial gentrification (or adjacency to a commercially gentrified tract) in 1990–2000 was a significant positive predictor of residential gentrification in the next decade. This is consistent with both cultural and economic explanations: new opportunities for local consumption may draw residents to housing nearby, and commercial gentrification may also signal to real estate investors that there are opportunities in the residential sector as well.

It seems then that in some regions, the chicken precedes the egg, while in others, the opposite occurs. It is unclear to what extent residential and commercial gentrification co-occur, although this is certainly a possibility. Regional differences in real estate markets and built environment characteristics may drive this divergence. For example, because of a "hotter" real estate market in the Bay Area, commercial retailers may seek to preempt residential gentrification by moving near areas where they expect gentrification to occur, in order to get a head start on future business. These are only hypotheses, however, and more research is necessary that examines how different characteristics of metropolitan areas relate to commercial and residential gentrification.

Overall, our statistical analysis provides minimal support for a hypothesis that transit investment is related to commercial gentrification. However, because these relationships differed between the two regions and left us with more questions than answers, we turned to qualitative case study research for a richer exploration of the topic.

Groundtruthing Commercial Gentrification: Four Case Studies

Quantitative "macro" analysis that draws and statistically analyzes data from different databases can help researchers objectively identify trends and outcomes in a region over time. The aggregate nature of the data, however, is often inadequate for explaining changes in particular neighborhoods and small-scale locales. The inflexibility of statistics may also mask important human elements of city planning analyses: How do people feel about neighborhood changes? How do they respond to them? Are the changes a product of something that those affected can identify but regression analysis cannot? The value in qualitative case studies therefore is multifold: qualitative research puts human faces on the changes happening in neighborhoods; it allows for guided speculation about the reasons, effects, and responses to these changes; and it produces rich information that may supplement, confirm, or contradict statistical analysis.

To more thoroughly explore the subject matter at hand, we conducted field observations and interviews with merchants, shop managers, and real estate professionals in two pairs of proximate commercial transit neighborhoods in Los Angeles and the Bay Area. In each pair, one neighborhood had commercially gentrified from 2000 to 2013, while the other had not, according to our quantitative (regression) analysis. The interviews examined whether and how neighborhood merchants and realtors in the commercially gentrified neighborhood felt their neighborhood is changing, and what they believe might be causing those changes. Field observations in these four neighborhoods identified types of commercial storefronts and whether they are experiencing commercial gentrification, further enriching our understanding of the built environment in these different contexts.

Temescal and KoNo Neighborhoods in the San Francisco Bay Area

Temescal and KoNo (Koreatown/Northgate) are two adjacent Oakland neighborhoods in close proximity to the MacArthur BART station. Both neighborhoods have business improvement districts (BIDs) along the Telegraph Avenue commercial corridor, within a half mile of the station (figure 7.3).[5]

Basic descriptive statistics from the area show a neighborhood in transition. By and large, both study areas have witnessed increases in population density and median household income in the past decade. The demographics of the area have changed as well. There are fewer African Americans, more Latinos, and more whites (in Temescal) and Asians and Pacific Islanders (in KoNo).

The stretch of Telegraph Avenue in Temescal consists of a six-block strip of primarily small, locally owned businesses that runs through some of the more affluent neighborhoods in the MacArthur area, many of which have

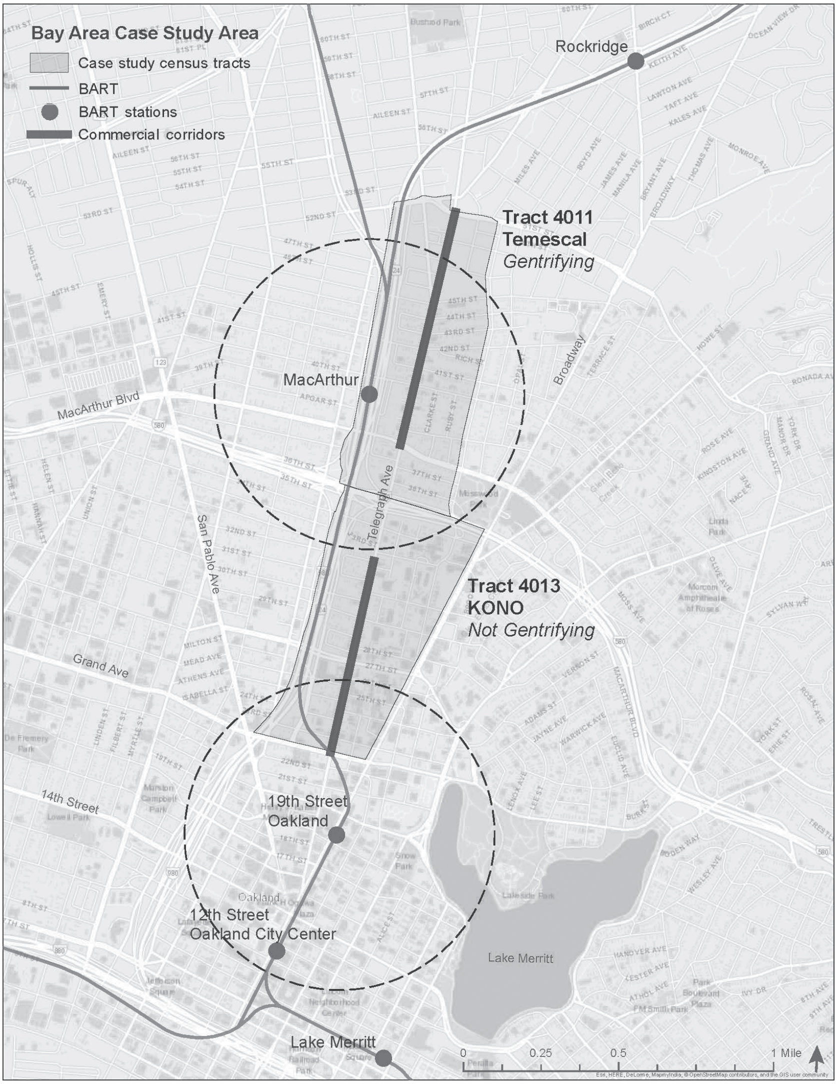

Bay Area Case Study Area
▨ Case study census tracts
BART
● BART stations
Commercial corridors
Rockridge
Tract 4011
Temescal
Gentrifying
MacArthur
MacArthur Blvd
Broadway
Telegraph Ave
San Pablo Ave
Tract 4013
KONO
Not Gentrifying
Grand Ave
14th Street
19th Street
Oakland
12th Street
Oakland City Center
Lake Merritt
0
0.25
0.5
1 Mile

Figure 7.3
Map of case study areas, San Francisco Bay region.

recently gentrified (Phillips, Flores, and Henderson 2015). With the support of the Temescal BID, the strip now displays banners touting its restaurants, shopping, and global flavor. The neighborhood was once home to Italian, then African, and later Korean immigrants but now shows clear signs of commercial gentrification and has become predominantly white and middle to upper-middle class. National media have described Temescal as “Oakland’s answer to San Francisco’s Mission District and the city of Berkeley, drawing a mix of yuppies and plaid-wearing hipsters” (Woo 2009), and the “hippest part of Oakland” (Haber 2014).

According to a recent study, of the 224 commercial parcels along the Temescal stretch of Telegraph Avenue, almost half (49 percent) turned over between 2007 and 2014 (Montojo and McElvain 2015, 12). One-quarter of the businesses replaced were retail businesses, and another 17 percent were restaurants or food service establishments (Montojo and McElvain 2015, 12). The greatest change in business type occurred among service establishments, 35 percent of which had been replaced by 2014 (Montojo and McElvain 2015, 12). Nearly all local-serving businesses that closed have been replaced by new local-serving establishments. However, certain names of new businesses suggest that, while they may still be local serving, they cater to a new local demographic that differs from the clientele of the businesses replaced. For example, several African or African American hair salons and barbershops were among the businesses replaced, which reflects the decline in African American residents throughout the MacArthur BART station area.

Both study neighborhoods have seen significant growth in the number and density of their business establishments but have witnessed a decline in the average establishment size as measured by the number of employees. These changes mirror regional trends in direction, but their magnitude in the two neighborhoods is less than in the city and county. Comparing counts of various types of business establishments in the commercially gentrified corridor (Temescal) with those in the noncommercially gentrified one (KoNo), we see significantly fewer (15 percent less) ethnic establishments and more strip malls (e.g., Temescal Plaza and Koryo Village shopping malls) in Temescal, which represent a significant amount of leasable commercial space.

Many of those interviewed have noticed a change in the types of establishments in Temescal. One business owner remarked on the changing clientele in the neighborhood: “It would be amazing not to notice the shift of

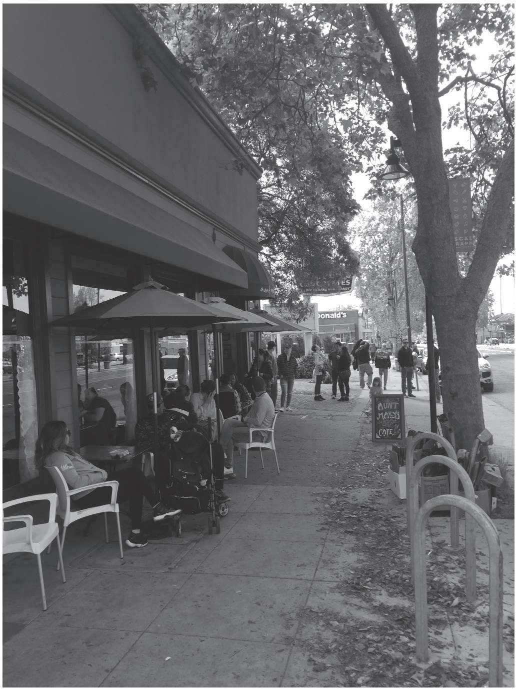


Figure 7.4
Café and new bike racks in Temescal. Photo by the authors.

businesses catering towards higher incomes." Most interviewees—including real estate brokers—remarked particularly about the increased number of restaurants and cafés (figure 7.4). Many referenced higher turnover and an influx of "fancier" establishments. One real estate broker described "classic retail dragging behind" the restaurant and café establishments that have proliferated in the neighborhood.

Some indicated that increased rent was the main reason some neighborhood businesses have closed down or moved out, and most merchants interviewed described rent increases for their own leased space or neighboring establishments. Some merchants said their rent had been doubled upon renegotiation of the lease, while one business manager noted that a nearby fast food restaurant had gone out of business because its rent was prohibitively high: "That place was very busy all the time. And they still went out [of business]." These responses suggest that rent increase is likely the prominent factor driving displacement of businesses in commercially gentrifying neighborhoods. Changing customer preferences may be an additional reason, however. Two Temescal merchants described having to change their inventory in response to the new clientele. One African American shoe store merchant said he used to be "selling shoes for a cheap price that are now not wanted."

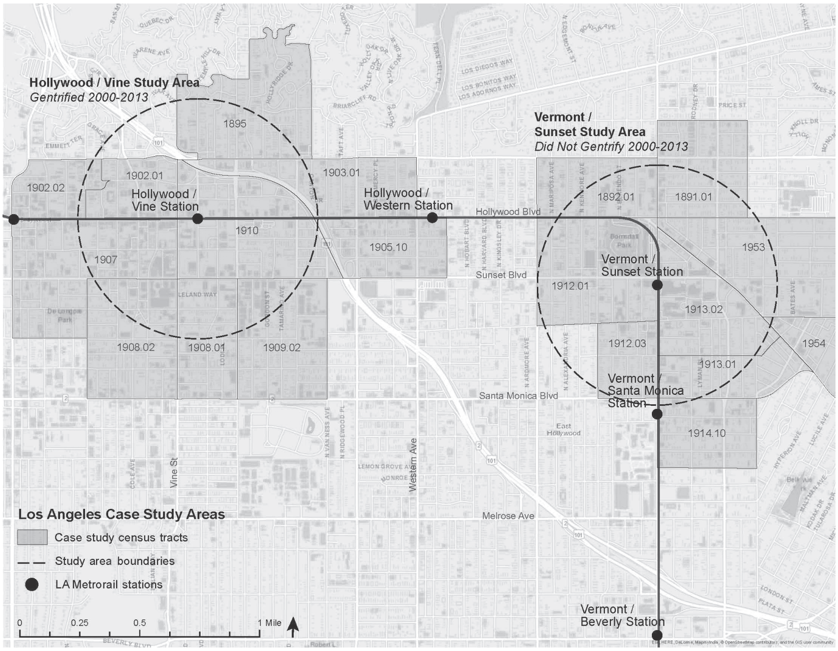
Although only some interviewees explicitly used the term gentrification to describe the changes occurring in the neighborhood, a number of merchants referenced an influx of wealthier residents from San Francisco. One business operator speculated that "families are moving in from San Francisco because of affordable housing." A number of interviewees explicitly mentioned noticing area demographic shifts toward white customers. Indeed, most business owners believed that increased rents and displacement pressures happen because of the influx of wealthier residents and the increased popularity of their neighborhood. One retailer said the increase in more "namey" restaurants was bringing people in from out of town, and the Temescal neighborhood had been marketed by realtors as "lower Rockridge" in an attempt to associate the area with a wealthier, more upscale neighborhood nearby. Such comments indicate a clear link between residential and commercial gentrification, though which comes first is not always clear.

The KoNo neighborhood clearly has not reached the stage of gentrification experienced by Temescal. Some interviewees suggested, however, that while KoNo is less attractive to tenants than Temescal is, it is rapidly becoming more attractive. One real estate broker working in the area described the northern Temescal and southern KoNo areas as "bookends—the best parts" of Telegraph and said that the KoNo tract had "done a 180" in the past few years and now "retail is totally taking off." A café owner described a similar "branding" of the KoNo neighborhood: "They came down here and put up flags that said KoNo on them. They tried to pretend people called this neighborhood KoNo. And no one really does." So while the census data and statistical analysis do not show KoNo as gentrifying, groundtruthing indicates that the neighborhood may be in an early stage of gentrification.[6]

What is the role of transit investment—specifically, of the MacArthur BART station—in commercial gentrification? Most merchants and real estate professionals in both neighborhoods considered transit to be related to ongoing commercial gentrification pressures but not a primary driver of the phenomenon. One business owner in Temescal said, "I don't think transit is wagging the dog here," suggesting that proximity to the MacArthur BART station was not the driving force behind the commercial gentrification of the neighborhood. Most shop owners and real estate brokers suggested that the commercial gentrification was “spreading” from more successful nearby neighborhoods rather than from any particular BART station. Only one interviewee, a real estate broker, said that “transit access plays a huge role” in real estate market values in the Temescal and KoNo neighborhoods. Another real estate broker interviewed said that transit access was a part of rising property values “to a degree” but that the real driver was that “you can get more bang for your buck in Oakland.… [It’s] overflow from San Francisco.… San Francisco is the linchpin.”

When asked how many of their customers used BART to access their stores, many business owners in both Temescal and KoNo acknowledged that some of their patrons took BART, but few identified it as their customers’ primary mode of transportation. One nail salon manager said that, while many of his customers were BART riders, they didn’t take BART to patronize his establishment specifically—they stopped in because it was located on their evening commute. A food establishment owner similarly described some of his customers as BART riders but said that “not many people are taking BART just to get here.” In this respect, transit access was perceived as playing a role in business success but was not identified by most merchants or real estate professionals as a primary driver of neighborhood change.

Examining the phenomenon of commercial gentrification on the ground confirmed our quantitative results, for the most part. We found evidence of business turnover and upscaling, as well as confirmation that transit is not a major driver of change. As in other case studies, we found race and culture driving demand. Yet we also uncovered the role of the area’s accessibility; according to locals, an influx of residents from San Francisco is driving the transformation. Just as we learned in the case studies in chapters 4 and 6, this neighborhood is part of a regional housing market. Thus, to locals, commercial and residential gentrification are occurring together, which may in part explain why, in this region, residential gentrification does not generally precede commercial gentrification. Our interviews in the region also suggested the possibility of commercial gentrification causing spillover commercial change in nearby neighborhoods, a phenomenon that we did not explore in the quantitative work.


Hollywood / Vine Study Area
Gentrified 2000-2013
Vermont /
Sunset Study Area
Did Not Gentrify 2000-2013
1895
1902.01
1902.02
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1910
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Vine Station
Hollywood /
Western Station
Vermont /
Sunset Station
Vermont /
Santa Monica
Station
Vermont /
Beverly Station
Hollywood Blvd
Sunset Blvd
Santa Monica Blvd
Melrose Ave
Vine St
Western Ave
East Hollywood
De Longpre Park
Barnsdall Park
Los Angeles Case Study Areas
Case study census tracts
Study area boundaries
LA Metrorail stations
0
0.25
0.5
1 Mile

Figure 7.5

Map of case study areas, Los Angeles region.

Hollywood/Vine and Vermont/Sunset Neighborhoods in Los Angeles

Hollywood/Vine and Vermont/Sunset are two neighborhoods in the mid-city area of Los Angeles that are close to transit (figure 7.5). Both stations opened in 1999 and are located on the Red Line. Despite these similarities, each station area has experienced neighborhood change differently. Census data show that between 2000 and 2013, only Hollywood/Vine gentrified both commercially and residentially.

From 2000 to 2013, a time of population growth (3.9 percent) for Los Angeles County, both station neighborhoods experienced population declines (about 5 percent in Hollywood/Vine and 13.5 percent in Vermont/Sunset). At the same time, while mean household income declined by 4.6 percent in the county during this period, it increased by 11 percent in the Hollywood/Vine neighborhood and by 7.4 percent in the Vermont/Sunset neighborhood. During the same period, the Latino population increased in the county by 7.4 percent but decreased in the two transit neighborhoods (by 6.2 percent in Hollywood/Vine and 10.4 percent in Vermont/Sunset).

With regard to their commercial environment, both neighborhoods have seen significant growth in the number and density of business establishments but have witnessed a decline in average establishment size as measured by the number of employees. Similar to the two Bay Area neighborhoods, these changes in Hollywood/Vine and Vermont/Sunset mirror regional trends in direction, but their magnitude is less than the county's at large. Comparing counts of various types of business establishments in the commercially gentrified corridor (Hollywood/Vine) with those in the not commercially gentrified one (Sunset/Vermont), we only see significant differences in the chain stores, with Hollywood/Vine having 38 percent more chain stores than Sunset/Vermont does.

All merchants interviewed in the Hollywood/Vine neighborhood—with the exception of one who had arrived only 18 months ago—had observed changes in the types of businesses opening in the neighborhood in recent years (figure 7.6). These changes included "more upscale restaurants," "new hotels and upscale clubs," "more small trendy stores," and "more tech companies." One merchant emphasized the amount of new construction in

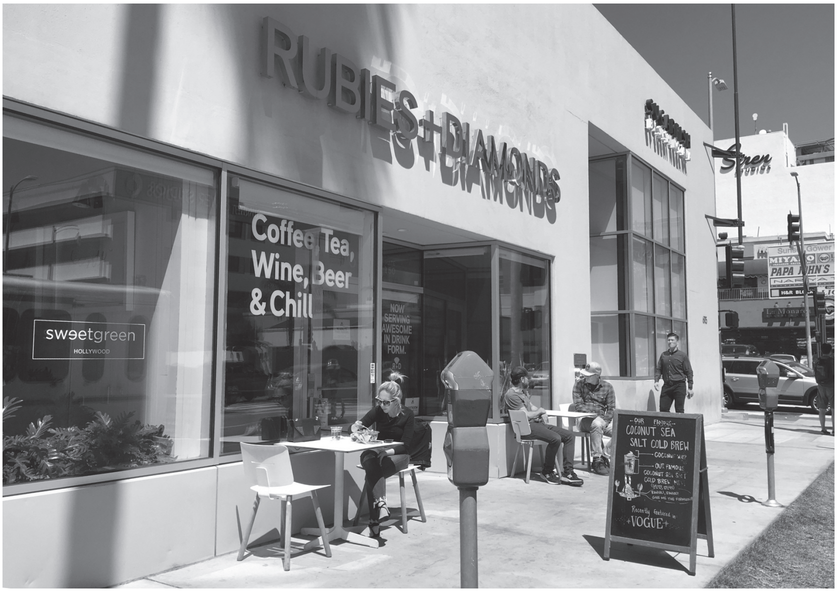

RUBIES+DIAMONDS
Coffee, Tea, Wine, Beer & Chill
sweetgreen
HOLLYWOOD
NOW SERVING AWESOME IN DRINK FORM.
OUR FAMOUS COCONUT SEA SALT COLD BREW
Recently featured in VOGUE
PAPA JOHN'S

Figure 7.6
An upscale coffee shop near the Hollywood/Vine station.

the neighborhood and the number of tourists, while another talked about redevelopment that accompanied the construction of the Metro stop. All three local realtors interviewed expressed similar sentiments. According to them: “The neighborhood is becoming more trendy—more artistic places are moving in”; “There are more restaurants than before; some are higher-end and have their own type of clientele”; and “There is more art and culture and more small [boutique] type shops. There is now a skate shop that caters to a younger crowd and also sells art.”

Interviewed merchants in the Hollywood/Vine neighborhood also reported changes in the kinds of customers patronizing neighborhood stores. They talked about “more upscale customers,” “more college and professional types,” “larger lunch crowds,” “more tourists,” “higher-end spending folks, lots of Europeans, Australians, and Scientology people” (a Scientology building is located nearby), and “more Metro users.” The realtors talked about more “hipsters” and more “art-influenced” customers, who are attracted to the neighborhood’s new commercial establishments.

One long-standing business owner in the Hollywood/Vine neighborhood lamented that his business had suffered in recent years because only a few people now come into his store (an Indian gift shop). This sentiment mirrored some of the findings in the Bay Area, where interviewees described a cooling of the traditional “soft retail” market. Businesses that were specifically identified as having been displaced were a small hamburger stand, a Korean grocery store that was replaced by Starbucks, a hat shop that became a fancy eatery, a luggage store, a nail salon, and a small camera store. Many respondents said these businesses could not make ends meet because of higher rents, a different customer base, or the negative effects of “prolonged Metro construction.”

Although some retail churn is normal, the realtors interviewed indicated that this neighborhood has a higher than normal turnover of neighborhood commercial properties. Indeed, field observations also revealed a number of storefronts with “for sale/rent” signs. According to one realtor, “Some small businesses have closed but it is hard to know if rents went up or if their business was simply no longer attracting enough customers, or if it went out of style.” Nevertheless, all three realtors interviewed confirmed that the values of both residential and commercial properties in the neighborhood have increased in recent years. One realtor noted, “Residential properties are increasing in value because commercial properties are going up first. Development in commercial property and investment draws higher-end amenities first.… Rents have increased for sure." According to another realtor, "Some people approach the neighborhood trying to buy or rent only to find that everything is now beyond their price range."

When asked what drives the observed changes in the neighborhood, some merchants attributed it to the high demand for a centrally located neighborhood such as Hollywood/Vine. Others reported it as demand by new residents "of the Silicon Valley type." However, for the majority of merchants who responded, change in the neighborhood has occurred because of the construction of new high rises, renovated hotels, and a transit station.

Even though census data indicate a 10 percent decrease in Latino residents in the Vermont/Sunset Station neighborhood over the last decade, it still remains low income and primarily Latino. Many of the businesses are small and unassuming establishments (liquor stores, bars, beauty and hair salons, discount stores, and a few low-budget chain stores such as Payless Shoes and Fallas Paredes) (figure 7.7) that appeal to a lower-income,

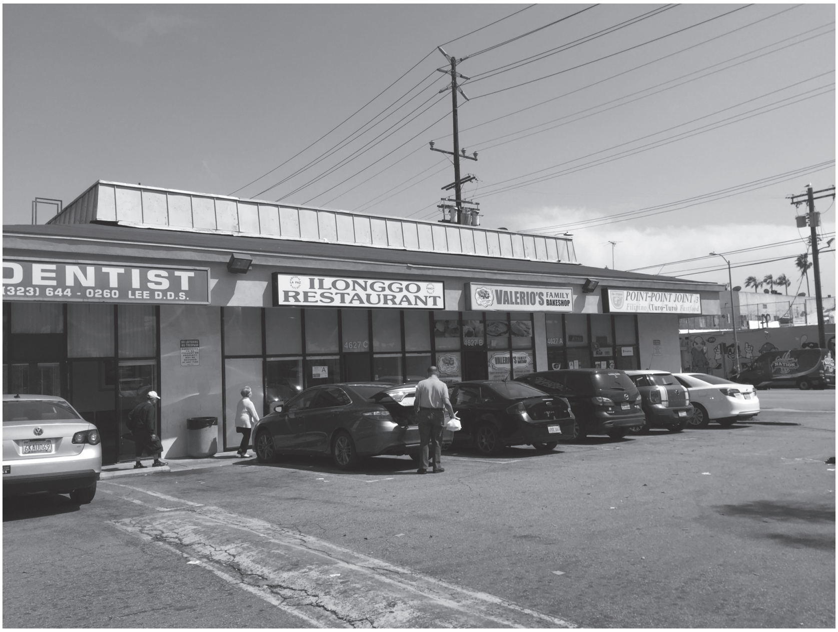


Figure 7.7
A strip mall with small businesses near the Vermont/Sunset Station.

primarily immigrant demographic. The vast majority of merchants interviewed in this neighborhood were Latino and Filipino. These merchants did not perceive significant change in the types of businesses and customers in the area, but a few noted some intruding new restaurants and coffee shops. Most of the Vermont/Sunset merchants described their customers as "regulars who live in the area," and only two businesses (a shoe store and a discount store) indicated that some of their clients are from outside the neighborhood.

The merchants interviewed were reluctant to disclose their rents, but two indicated that they had experienced a rent increase in the last two years. None of the merchants, however, intended to relocate, a possible sign that business in this low-income, multiethnic neighborhood is relatively stable and rents are still affordable. About half of the merchants interviewed were not aware of any stores that had closed or relocated, while the other half named some businesses, such as a vitamin store, an art store, a mobile phone store, and a beauty salon, that had closed. The first two types of establishments may appeal to a more upscale customer demographic, which may not have been present in sufficient quantity in this neighborhood.

In terms of the perceived impact of the transit station on commercial gentrification, responses were somewhat different in the two neighborhoods. In the not commercially gentrified Vermont/Sunset neighborhood, shopkeepers perceived increases in pedestrians and cyclists to be a direct product of the station, but few indicated that the station was influencing the commercial real estate market of the neighborhood. In contrast, in the commercially gentrifying Hollywood/Vine neighborhood, some merchants connected increased redevelopment and an influx of tourists with the opening of the Metro stop, and many knew of neighborhood businesses that had been displaced because of Metro construction. One merchant in Hollywood/Vine described the situation as follows: "Streets are congested and people are flustered."

As with the San Francisco cases, these interviews largely confirm the regression results, providing more evidence of turnover and upscaling, with a limited role for transit. The Los Angeles cases also illustrate how residential gentrification in surrounding neighborhoods leads to commercial gentrification.

In conclusion, these case studies provide a more nuanced view of the commercial environment in four neighborhoods, improving on knowledge gleaned only from aggregate data. For one neighborhood (KoNo), groundtruthing showed that there are more gentrification pressures taking place than the quantitative analysis shows, and while the regression models did not identify a significant relationship between the opening of a transit station and commercial gentrification, the experience on the ground indicates that such transit investment is one (albeit likely not the most important) factor contributing to commercial gentrification. More specifically, the influx of new upscale restaurants and eateries seems to be a telling sign of commercial gentrification, and a number of respondents connected new transit-oriented development and rising rents with displacement of businesses and neighborhood change. It is possible that these rising rents and new developments were catalyzed by improved transit access, thus creating a chain of causation from improved transit access to commercial gentrification.

Conclusion

This chapter makes explicit some of the nuances that accompany the phenomenon of commercial gentrification. At a basic level, commercial gentrification denotes a replacement of existing lower-rent establishments in a neighborhood, which tend to serve long-standing, usually lower-income, groups, by more upscale, higher-rent establishments, which are typically patronized by a higher-income clientele. Since commercial gentrification occurs disproportionately in low-income communities of color, it grows out of deep-seated structural inequities—to some, a violent cultural appropriation.

It is, however, challenging to detect the extent to which business loss stems from displacement because of rent increases, as businesses open and close regularly for a variety of reasons. Commercial gentrification may also be experienced differently in different neighborhoods. As the differences in factors influencing gentrification in Los Angeles and the Bay Area show, commercial gentrification is context-specific and may be influenced by local sociodemographic characteristics, features of existing business establishments, and a neighborhood's urban form. In certain cases, the characteristics of adjacent neighborhoods—especially if these neighborhoods have already experienced commercial or residential gentrification—also matter. Yet we also found deep similarities in gentrification processes across regions and methodologies, manifested by attraction to high-density rental markets and communities with a strong cultural identity, as evidenced by a concentration of African American and foreign-born residents.

The relationship and sequencing between residential and commercial gentrification also needs further exploration. As explained previously, the results of our quantitative study were mixed, and it is not clear when and where one type of gentrification follows the other, which comes first, or whether they appear simultaneously. Nevertheless, the relationship between residential and commercial gentrification is widely emphasized by local stakeholders, who see that an influx of new and wealthier residents may be followed by upscale retail or vice versa: that the opening of hip cafés and eateries may lead landlords to raise rents in search of wealthier tenants. Such cases are often anecdotal, but their incidence has proliferated in both the San Francisco Bay Area and Los Angeles, as evidenced by the number of newspaper articles, blogs, and social media stories about gentrification. We suspect there may not be a universal pattern, with such relationships changing from one neighborhood to another, depending on urban form, and in different regional contexts, depending on market strength.

As the interviews showed, displacement of some neighborhood businesses seems to be a likely effect of commercial gentrification, even though this may take longer than residential displacement, as commercial leases are typically of longer term than residential leases. The case studies suggested new explanatory factors such as regional accessibility, since transit makes a neighborhood and its commercial and residential establishments more accessible to a larger share of people in the region. The merchants interviewed generally indicated that rising rent costs were the most significant aspect of neighborhood change putting pressure on their business's bottom line. Indeed, the primary reason for commercial displacement is the increase in commercial rents in a gentrified neighborhood. A second reason is that some businesses find themselves losing clientele, either because their merchandise is not appealing to the tastes of a new neighborhood demographic and/or because long-standing customers have been displaced.

To what extent does transit investment lead to commercial gentrification? Unlike some clear relationships between residential gentrification and the presence of a rail transit station (especially in downtown neighborhoods) that we observed in chapter 5, we did not witness a similarly strong relationship between commercial gentrification and proximity to a transit station. However, as the case study examples indicate, this may not represent a universal truth, and this issue requires further probing. As Temescal, Hollywood/Vine, and a number of other commercially gentrified transit neighborhoods indicate, it would be a mistake to assume that transit neighborhoods are not susceptible to commercial gentrification. Commercial gentrification is a subtle and incremental process, and transit investment works in concert with many other factors to catalyze the transformation—in ways that cannot be readily quantified or analyzed via regression models.

8 Transit and Displacement: Where Do the Displaced Move?

The development of new transit facilities is associated with displacement. Not only may the construction of lines and stations result in the demolition and loss of housing, but also rising land prices around transit may result in rent increases that can push out households or businesses. However, as previous chapters have established, context shapes mobility outcomes, and displacement may occur either before (in anticipation) or after transit investment. Moreover, we have very little evidence about what happens to the residents who leave. Where do they go? How does their departure from the neighborhood transform their activity patterns? And how does it impact their ability to reach key destinations?

Transit-induced displacement is occurring in a general context of declining residential mobility in the United States. Currently, just 11 percent of the population move each year, compared to about 20 percent in the mid-1980s (United States Bureau of the Census 2017). Certain groups are disproportionately mobile, including renters, minority communities, families with children, and low-income households. Still, the overall trend is for people to relocate less often, perhaps because of the availability of improved transportation and the greater ability to withstand economic and other shocks (Fischer 2010). Nevertheless, the arrival of a transit line is one of the remaining factors that can disrupt local lives and force people to leave a neighborhood.

Many different factors push and pull households from and to a neighborhood. Key among them are the stages in a household's life cycle, from household formation to changes via childbearing, marriage and divorce, and the emptying of the nest. Neighborhood satisfaction and community attachment can also shape the timing of departures, yet race and income affect these factors in complex ways by imposing barriers to movement. For instance, African Americans are less likely than whites are to move voluntarily, despite neighborhood dissatisfaction (Coulton, Theodos, and Turner 2012).

For most of the past two centuries, mobile households have tended to move from city to suburb in search of a higher quality of life, but because of the role that factors such as discrimination play, as well as the geography of affordable housing, many low-income and/or minority households have few alternatives when deciding where to move. Ironically, the recent movement of households "back to the city"—often spurred by the availability of new rail transit—has placed new pressure on rental stock in low-income neighborhoods, forcing city residents to look elsewhere (Birch 2005; Florida 2017). Many find a way to stay in the city, often moving to poorer neighborhoods (Clark 2012; Desmond and Shollenberger 2015). Some finally make it to the suburbs or exurbs, helping to create a new suburban or exurban poverty (Kneebone and Berube 2013, but for others, particularly African Americans, racial discrimination and segregation severely constrain residential choices within the region.

As discussed in chapter 4, there are very little data available on displaced households. We can ascertain when a neighborhood is losing or gaining low-income households overall, but we know little about where households from a specific area end up living. Thus, in this chapter we focus on why and where low-income households, particularly those who live near transit, move, as a proxy for understanding moves of displaced households specifically. This chapter begins by providing context for understanding mobility, looking at the factors behind residential mobility and how residential choice works for low-income households. A brief examination of mobility patterns around the world expands into a look at where low-income households specifically move and the impact of their mobility on life chances. The chapter concludes with an empirical examination of the relationship between transit and mobility.

Understanding Why People Move and Residential "Choice"

Households move for many reasons, and sometimes the stated reason for moving ("a new job") oversimplifies the actual reason ("a new job allowed me to move nearer to my family and the transit station"). There are many choices of where to move, but individuals may not know about all of them, and some may not be real choices, because of discrimination or just preferences. If the move is unexpected, as in the case of displacement, choices may be limited because of the lack of time to find new housing. These factors thus complicate the ability of researchers to understand and predict mobility (Kan 1999; Bruch and Mare 2012).

Still, the predominant reason for moving between regions is because of a new job, while within regions it is to achieve greater residential satisfaction, often better or cheaper housing (Schacter 2001). A higher household income and educational level lead to more choices about where to live (i.e., enabling relocation at greater distances), as well as more opportunities to upgrade to higher-quality or more spacious housing (Schacter 2001; Wu 2004). Whether in the United States, China, or elsewhere, a household's life cycle drives its mobility, including change in marital status, location of children (both young and grown), and changes in health (Li, Wang, and Law 2005; Painter and Lee 2009). However, the institutional context (e.g., government regulations about retirement) may also affect tenure choice (Huang and Clark 2002). Unsurprisingly, homeowners move less often than renters, with the decision dependent on how much equity they have in their home (Chan 2001; South and Crowder 1998; Li 2004; Coulson and Grieco 2013).

Even when people move to be nearer to a job, their decision may be constrained by the housing market; in particular, regions may lack affordable housing market opportunities for low-income households, limiting their moves (Bonnar 1979; Kronenberg and Carree 2012; J. H. Kim 2014). In fact, even when moves are related to a new job, they are also likely to be shaped by other factors, such as family ties, career opportunities, and attachment to the current dwelling or neighborhood (Morrison and Clark 2011; Kronenberg and Carree 2012). Over time, it has become much less likely for people to move between regions for a new job, most likely because of changes in the labor market that have made it less desirable to change employers, as well as complications from having multiple earners in the household (Jarvis 1999; Molloy, Smith, and Wozniak 2014).

Though most people move because of a job or because they desire different housing, neighborhood context—and resident perceptions about it—also matters to some households when making their choices. Thus, dissatisfaction with the neighborhood, along with a perception of lack of community ties, may increase mobility (Clark and Ledwith 2006). Specific neighborhood characteristics, such as the share of homeowners, along with regional characteristics such as the degree of urbanization and the size of the housing market—or just the perception of these factors—can push or pull residents out of a neighborhood (van der Vlist et al. 2002). Likewise, the very perception of living in a high-turnover, "transient" neighborhood leads to higher mobility for households in this neighborhood (Lee, Oropesa, and Kanan 1994).

Segregation—whether by racial or ethnic group, as in the United States, or by immigrant or income group, as in other parts of the world—also shapes mobility patterns. The tendency of low-income racial or ethnic groups to move into neighborhoods with existing concentrations of their group—and often to move out of these areas at lower rates—exacerbates segregation (Rosenbaum and Friedman 2001; Huang, South, and Spring 2017). Even when residents prefer to move, segregation may deter them from either leaving the old neighborhood or entering a new one. Moreover, the process is dynamic: as residents leave one neighborhood and enter another, change processes may accelerate in both (Mare and Bruch 2003). Although determinants of mobility overall vary little by race, African Americans are disproportionately likely to move out of white areas, less likely to move out of the county, and less likely to move out of the metropolitan area when a greater share of African Americans are there (South and Crowder 1998; Huang, South, and Spring 2017).

Adding low-income households to the mix complicates mobility even further. With few alternatives about where to move, low-income households present challenges to conventional theories of residential mobility and choice. Thus, moves that seem voluntary may actually be highly constrained (Newman and Owen 1982). Conversely, many households stay in place for lack of options. Lacking choice among a set of alternatives, low-income households move based largely on the opportunities offered by relationships—networks with family and friends. As a result, their moves are mostly unplanned, and housing arrangements remain informal (Skobba and Goetz 2013). Overall, local social ties—kinship networks and social ties of children—reduce the mobility of low-income households (Dawkins 2006). But also, as for other households, the perceptions of low-income households about neighborhood quality and safety, as well as the availability of housing in the market, shape their mobility (Basolo and Yerena 2017). The motive for the move of a low-income household is not always clear; mobility can represent movement up and out of a poor neighborhood, or it can reflect chronic instability (Coulton, Theodos, and Turner 2009).

Because of the constraints on their mobility that low-income households face, moves that appear to occur by choice may actually be forced (i.e.,

- Abandonment
- Accidental fire
- Airport construction or expansion
- Arson
- Code enforcement (incl. overcrowding)
- Conversion of rental apartments to condominiums
- Demolition to make way for new housing
- Demolition for safety/health reasons
- Foreclosure
- Highway or transit construction/expansion
- Historic area designation
- Institutional expansion (universities/hospitals, etc.)
- Military base expansion
- Natural disaster
- Partition sales
- Planning and zoning decisions
- Public building construction
- Redlining
- Rehabilitation (private market)
- Rehabilitation (publicly aided)
- Renovation of public housing
- Rising market prices and rents
- School construction
- Urban renewal
- Withdrawal of private services from neighborhood or structure

Figure 8.1
Conditions resulting in displacement in urban neighborhoods.
Source: Adapted from Grier and Grier (1978).

displacement). For example, a landlord might warn tenants of an impending rent increase or owner move-in months or years in advance. The tenant may then preemptively move out. This is a forced move, but it is not a formal eviction and may appear to be part of normal neighborhood churn. A classic report on displacement commissioned by the US Department of Housing and Urban Development characterized the various factors that might lead to the involuntary movement of people from their residence (figure 8.1) (Grier and Grier 1978). Whether the cause is natural disaster, rent increase, code enforcement, or landlord neglect, a move that seems voluntary may actually be displacement. The discussion of these external factors is nearly absent from the housing choice literature, which tends to focus on household preferences rather than buildings and landlords.

How Often Do People Move?

Geographic mobility is declining in the United States. Mobility—commonly measured as the share of the population that moved in the past year—fell from about 20 percent in the mid-1980s to an all-time low of 11 percent in

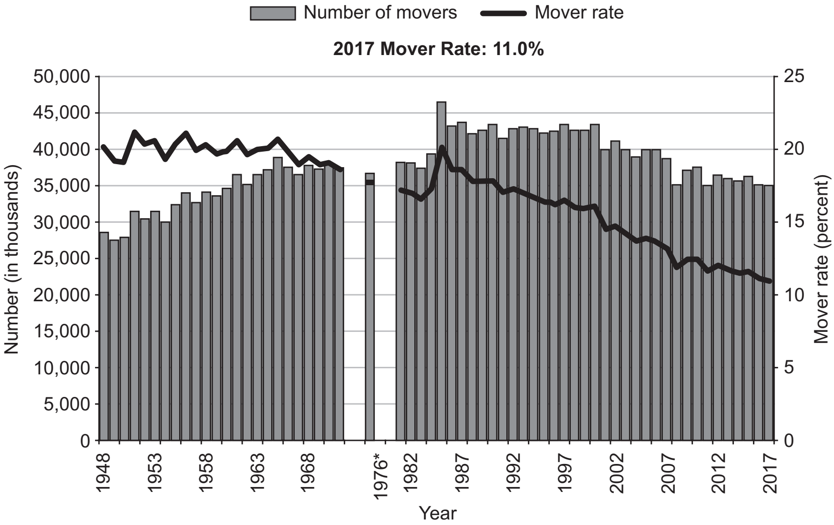


Figure 8.2

Numbers of movers and mover rates, 1948–2017. Note: The CPS sample design was generally updated in the years ending in "5" based on previous decennial censuses. * The 1-year geographic mobility question was not asked between 1972 and 1975 and 1977 and 1980.

Source: United States Bureau of the Census, *Current Population Survey*, 2017. https://www.census.gov/library/visualizations/time-series/demo/historic.html.

2017, and has actually been falling since 1948 (the year the census survey first asked the question) (figure 8.2). Not surprisingly, movers—especially those who move for cheaper housing—are disproportionately low-income and renter households from communities of color (figure 8.3). Yet mobility rates for renters, particularly those aged 25–44, have been declining, similar to mobility rates for older homeowners (Harvard Joint Center for Housing Studies 2017b). Altogether, there were five million fewer moves (20 percent fewer) in rental markets in 2015 than in 1997 (Harvard Joint Center for Housing Studies 2017b).

When renters and homeowners do move, it is usually not far away: more than two-thirds of moves are within the same metropolitan area (J. H. Kim 2014). Interstate migration has been declining for 30 years, perhaps because of the lessening benefit from switching employers (Molloy, Smith, and Wozniak 2014). The Great Recession shifted this trend briefly, as local

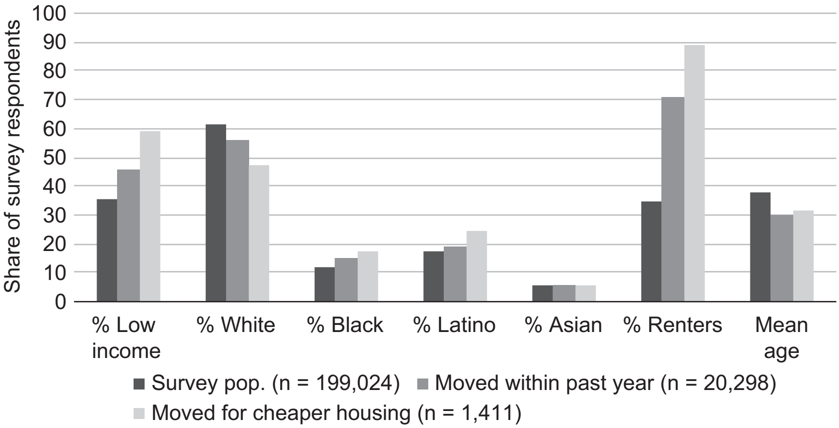


Figure 8.3

Characteristics of movers. Calculations by the authors from United States Bureau of the Census, *Current Population Survey*, 2015.

or intraregional moves, particularly among disadvantaged groups, began increasing for a few years (Stoll 2013), but after this brief interruption, the declining trend resumed.

That US neighborhoods and regions are becoming more stable is possibly partly the result of transportation technology, which now allows workers to change jobs without moving, and overall greater security, which helps mitigate shocks such as disasters and recessions (Fischer 2010). Thus, stability has probably been increasing for 150 years, since the onset of the Industrial Revolution (Fischer 2010).

When households do move, it is increasingly for housing reasons but more to cope with housing challenges than to improve housing conditions (figure 8.4). This is partly driven by the decline in home ownership rates that has occurred since the Great Recession. Another increasingly important motive for moves is to deal with family needs or changes.

Though surveys provide a glimpse of the mobility patterns of low-income households, as well as the increasing role of housing in spurring a move, they provide little insight into whether the move is by choice. The *Current Population Survey* only added "eviction" as a possible reason for moving in 2012, and it is combined with foreclosure. In 2015, this particular reason accounted for a total of 0.75 percent of all reasons. Thus, displaced

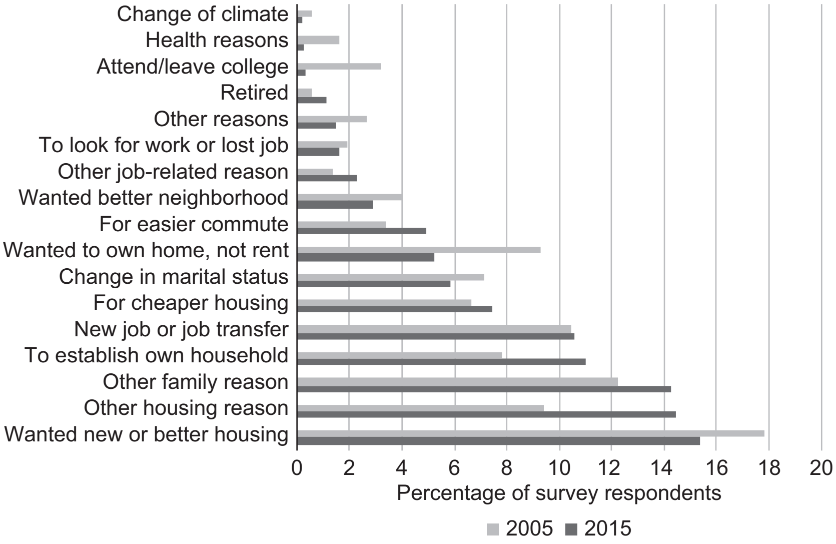


Figure 8.4

Reasons for moving, 2015 vs. 2005. Calculations by the authors from United States Bureau of the Census, *Current Population Survey*, 2005 and 2015.

households who do not experience a formal eviction—the majority of the displaced, according to Desmond (2016)—most likely explain their move as “wanted new or better housing,” “other housing reason,” “for cheaper housing,” or “other reason.”

Thus, to understand the extent to which low-income households are moving by choice or involuntarily requires other sources of data. At the national level, the Panel Survey of Income Dynamics suggests that about 5 percent of all moves are involuntary, at least in part as a result of rising housing costs (relative to income) and living in more central areas, and also related to demographic characteristics such as lack of education and youth (Newman and Owen 1982). The 2009 American Housing Survey (AHS) estimated that even fewer—between 2 percent and 5 percent of moves—resulted from displacement, perhaps because their survey questions do not ask about informal evictions (Desmond and Shollenberger 2015).

In a survey of renters in Milwaukee, Wisconsin, Desmond and Shollenberger (2015) found that more than one in eight renters experienced at least one forced move (formal or informal eviction, landlord foreclosure, or building condemnation) over a two-year time period, and 11 percent of all moves resulted from displacement. Forced moves occurred disproportionately to African American and Latino renters, and nearly half of all forced moves were informal evictions. Finally, looking at unique survey data from the New York City Housing and Vacancy Survey on households that move for reasons related to housing expense, landlord harassment, and displacement by private action (i.e., condo conversion), another study estimates that between 6 percent and 10 percent of all moves in New York City from 1989 to 2002 resulted from displacement (Newman and Wyly 2006). This number could be a significant underestimate because of the inability of survey data to capture "doubling up," homelessness, or moves out of the region (Newman and Wyly 2006). Other factors may also result in an underestimate of displacement. As discussed in chapter 3, surveys rarely capture full chains of displacement, instead focusing on last-resident displacement, yet the last displacement, and the housing unit left vacant, sets into motion a set of connected moves that impact the housing market in complex ways (Marcuse 1986; Millard-Ball 2002).

Another rich source of data is the panel survey data from the Annie E. Casey Foundation's Making Connections Initiative, a decade-long intervention in impoverished neighborhoods in 10 US cities.[1] Surveying addresses and households (specifically, families with children) in two waves showed that 28 percent of the families in these neighborhoods moved each year, while 57 percent of them had moved within a three-year period (Coulton, Theodos, and Turner 2009). Almost half of these moves were not by choice but rather because of financial stress and/or problems with rental housing (Coulton, Theodos, and Turner 2009). These chronic moves, though generally of short distance, suggest a high degree of residential instability and vulnerability; many of these households are facing high risks of becoming homeless (Kingsley, Jordan, and Traynor 2012).

Where Do People Move?

As the popularity of early streetcar suburbs attested, the dominant mobility pattern in US metropolitan areas since the Industrial Revolution has been from city to suburb (Warner 1962). As has been well documented, the shift to the suburbs was helped by government policies supporting home ownership and suburban infrastructure development, accompanied by advances in construction methods that reduced housing costs (Jackson 1987). Those households with residential choice "voted with their feet" and often elected to move to suburbs with the right bundle of local taxes and services (Tiebout 1956; John, Dowding, and Biggs 1995). Increasingly, even those with minimal or no choice, such as low-income households, have also ended up in the suburbs, particularly the inner ring, where housing costs are not as high (Kneebone and Berube 2013). Even though a back-to-the-city movement in the last decade has attracted young adults to downtown living in certain metropolitan areas (Birch 2005), the overall trend continues to be net migration out to the suburbs (Kolko 2017). Indeed, the lure of suburban living seems to be universal, as the suburbanization process has been repeated in China, Southeast Asia, Europe, Latin America, and Africa (Clapson and Hutchison 2010; Shen and Wu 2013).

The story for low-income households—a group that includes at least some of the displaced—is more mixed. Even though the concentration of low-income households in the suburbs is increasing, this seems to occur as much or more because of the downward mobility of the existing suburban middle class and the arrival of first-generation immigrants than because of migration from city to suburb (Murphy and Allard 2015). In reality, the moves of low-income households are spatially constrained, making city-to-city and suburb-to-suburb moves more common than those from city to suburb. Not only are few affordable housing choices available to them, but also the search for housing takes place in a highly localized area, shaped by social networks (Hanson and Pratt 1995).

Thus, the few studies that focus on low-income household moves find that low-income movers relocate to housing units no more than a few miles away (Coulton, Theodos, and Turner 2009; Martin 2012). In the 10 cities of the Making Connections Initiative, most movers relocated in or near their original neighborhood; the median distance of the move was 2.6 miles. Overall, 30 percent of households are moving out of a neighborhood by choice, and these are the ones who move the farthest away (a median of 5.8 miles). They tend to be upwardly mobile young families of moderate income, often moving into home ownership. For the 46 percent that are chronic or "churning" moves, which occur for young families with very low income out of instability rather than choice, the median move was 1.7 miles. An additional 24 percent of movers were older families, often low-income homeowners, who move to nearby neighborhoods because of local attachments, with a median move distance of 1.1 miles (Coulton, Theodos, and Turner 2009).

Similarly, a study of the moves of households displaced by foreclosure in the Bay Area using US Postal Service data found that the majority moved within one mile of their original household, some even moving across the street (Martin 2012). On the other hand, forced eviction in a tight housing market may disperse residents farther: a study of evicted households in San Mateo County found that only 20 percent were able to remain within the neighborhood, and one-third of them moved out of the county altogether (Marcus and Zuk 2017). Thus, in more affluent areas like San Mateo County, displaced households may find it impossible to stay nearby.

Even if low-income households tend to move near their original home, they are generally moving to even more impoverished neighborhoods. Comparing forced moves to all moves for Milwaukee renters revealed that those experiencing involuntary displacement relocated to more disadvantaged areas (in terms of income and crime) (Desmond and Shollenberger 2015). In Philadelphia, movers out of gentrifying neighborhoods ended up in lower-income areas (Ding, Hwang, and Divringi 2016). Low-income renters in Los Angeles, presumably including the displaced, ended up moving to a similar or worse neighborhood than the original one (in terms of resources such as income, education, and home ownership), although a small share of whites and Latinos were able to move to a better neighborhood (Clark 2012). One exception is households dislocated by Hurricane Katrina in New Orleans, who were generally able to move to more advantaged and diverse neighborhoods—but only by relocating outside their original neighborhood (Graif 2016).

Why, then, do low-income households move so close to their original homes? A primary reason is the existence of local social network ties, particularly family members, who not only provide a reason to stay local but also provide information about available affordable housing nearby (DaVanzo 1981; Martin 2012). In other words, just as members of a family are interdependent in “linked lives,” so is their experience of mobility connected and mutually constrained (Gillespie 2017, 113).

Another reason is spatial segregation. When low-income and/or African American households move from their segregated neighborhoods (whether by income or race and ethnicity), they may find that the only available choices for affordable housing are located nearby in similarly low-income and/or segregated areas (Huang, South, and Spring 2017). Even when moving from a socially diverse neighborhood, individuals tend to move to areas that afford them the opportunity to reduce the social distance from their neighbors (Musterd et al. 2016). Yet, given the opportunity, most prefer to move into higher-status neighborhoods; for instance, Latinos in Los Angeles choose to move into neighborhoods with fewer Latinos if their income allows it (Clark and Ledwith 2006). Other than segregation, external factors, such as the overall supply of housing and the racial diversity of the region, shape these move-in opportunities as well. In other words, mobility (and forced mobility) may exacerbate segregation, particularly in regions with housing supply constraints and low diversity (South and Crowder 1998).

Whatever the cause, the outcome of the move may not be beneficial and may actually harm the movers' life chances. Residential instability, or hypermobility, may impact educational achievement, physical health, and mental health, among other outcomes (Kingsley, Jordan, and Traynor 2012; Desmond 2016). When moves stem specifically from eviction, outcomes are potentially even more severe, including homelessness, longer commutes, diminished access to health care resources, stress, and educational disruption (Marcus and Zuk 2017). Even moves generated by low-income housing policies seeking to deconcentrate poverty have had poor consequences for employment, income, education, and health (Goetz and Chapple 2010). This finding of negative outcomes, particularly in terms of employment, seems to hold true even for voucher holders who are moving by choice, and even when moving to higher-income neighborhoods (Basolo 2013). Again, these negative outcomes are likely related to the short distance of moves; low-income households are not able to reap as many benefits from moving as high-income ones because they lack the resources, in terms of income, home ownership, and education, to change their socioeconomic status (Clark 2012).

Negative outcomes are not inevitable, however, as some households are invariably better off after the move (Newman and Owen 1982). Although studies of displacement outside the United States are rare, one study of forced mobility in Shanghai found that displaced residents improved their conditions (both objectively and in their own estimation) (Li and Song 2009). Analyzing the mixed impacts of household mobility found in the literature, Gillespie (2017, 189–190) notes that "individuals are equipped with different resources and, therefore, experience and respond to mobility in very different ways. There is great heterogeneity in the number of stressors individuals experience across different move contexts. Individuals have different exposure and vulnerability to stressful moving contexts—and mobility effects reflect those contexts. Households experiencing multiple stressful life events, including multiple stressful move contexts, are especially vulnerable to negative outcomes."

Adding in the Transit Factor

Proximity to transit may affect residential mobility as either a pull factor, attracting households to live near a station because of accessibility improvements, or a push factor, increasing demand for a neighborhood with the result of either rising rents or the neighborhood becoming so unpleasant that people choose to leave (i.e., a disamenity). New transit systems can also facilitate the move to other neighborhoods in the metropolitan area by providing new accessibility. Unfortunately, studies of mobility rarely examine the role of transit; for instance, even the *Current Population Survey* asks only whether the respondent moved for an "easier" commute, without specifying mode choice.

Nevertheless, as detailed in chapter 3, over the decades, when new transit systems are planned and developed, a displacement process may be set in motion. As chapter 4 showed, displacement impacts may not materialize until decades after the construction of the transit system. Neighborhoods indeed change slowly.

To our knowledge, just one study (Boarnet et al. 2017) specifically examines the question of whether the opening of a new train station changes mobility patterns and where residents of the new transit neighborhoods move to. Looking at tax filing locations for households in Los Angeles County, the study identifies households that have moved at least a half mile from one year to the next. Overall, the authors find higher mobility rates in Los Angeles than in the United States in general but also that the majority of households, regardless of income, move less than five miles. Neighborhoods with new rail stations are characterized by higher than average residential mobility rates (an increase in outward mobility of 0–3 percentage points for an effect magnitude of 0–17 percent). However, this differs widely by context, and in some cases moves out of a neighborhood are significantly higher for high-income households than for low-income ones. This study's findings suggest a very high churn rate in Los Angeles but not so much in these particular transit neighborhoods, suggesting that the process may be taking some time to unfold.

Given the lack of research on transit and low-income movers, the effects of moving away from transit are unknown. However, research has examined the impacts on driving (and, by extension, greenhouse gas emissions). When low-income households live near transit, they drive relatively little, and significantly less than high-income households (Newmark and Haas 2015; Chatman, Xu, and Park 2017). But moving toward or away from transit has different impacts on low-income versus high-income households (figure 8.5). Moving to a transit-proximate neighborhood (defined as zip codes with rail transit) from a location away from transit barely changes the driving (measured in vehicle miles traveled) of low-income households while slightly reducing the driving of high-income ones. However, moving away from transit results in a disproportionately larger increase in driving for low-income households than for high-income ones. While research with a larger sample is necessary to confirm these results, they suggest that when low-income households lose the convenience of living near transit, they also may lose accessibility, resulting in adverse environmental impacts. Another

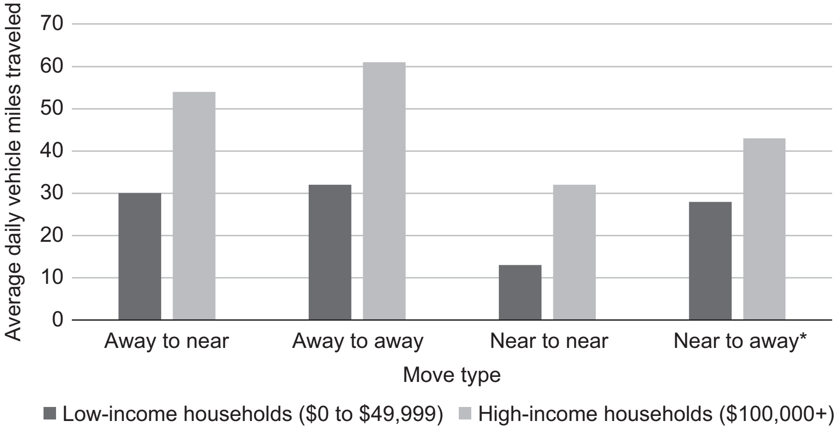


Figure 8.5

Moving close to and away from transit, low-income vs. high-income households.

* Low sample size, unreliable estimates.

Source: Adapted from Chatman, Xu, and Park (2017).

relevant finding of this study is that transit neighborhoods must gain population density in order for rail to reduce vehicle miles traveled in a region.

Although data constraints make it challenging to determine the role of transit in residential mobility, whether voluntary or involuntary, we can at least examine the associations between transit and residential mobility for different groups. Microdata from the American Community Survey reveals substantial differences in mobility patterns for low-income transit users (figures 8.6–8.12). We start by examining overall residential mobility patterns before zooming in on transit users.

Looking at the top 21 metropolitan areas in the United States, people of color are underrepresented among movers in the majority of cases (and in all metropolitan areas in California) (figure 8.6), though Atlanta, Detroit, Philadelphia, and St. Louis are notable exceptions. However, a different picture emerges when examining patterns for low-income people of color

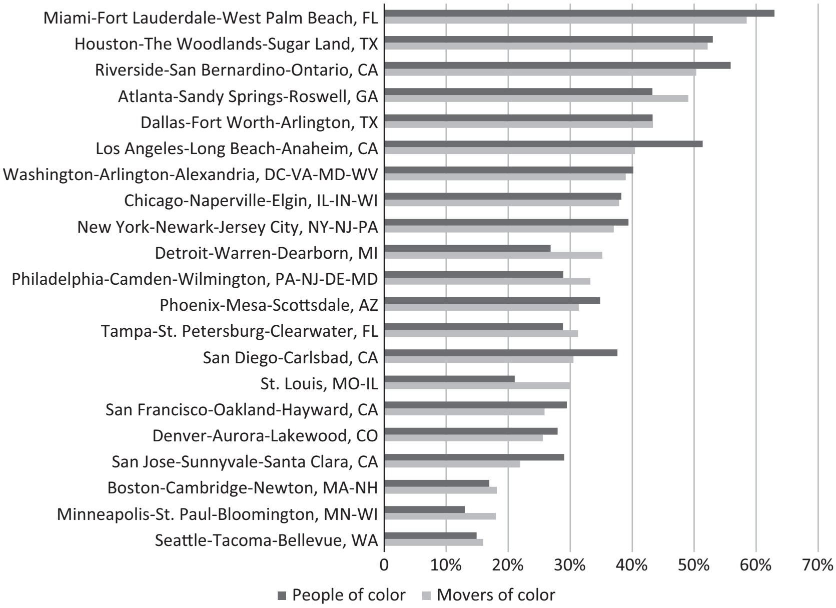


Figure 8.6

Movers of color versus overall people of color, top 21 US metropolitan areas, 2015. Calculations by the authors from the American Community Survey Public Use Microdata, 2015.

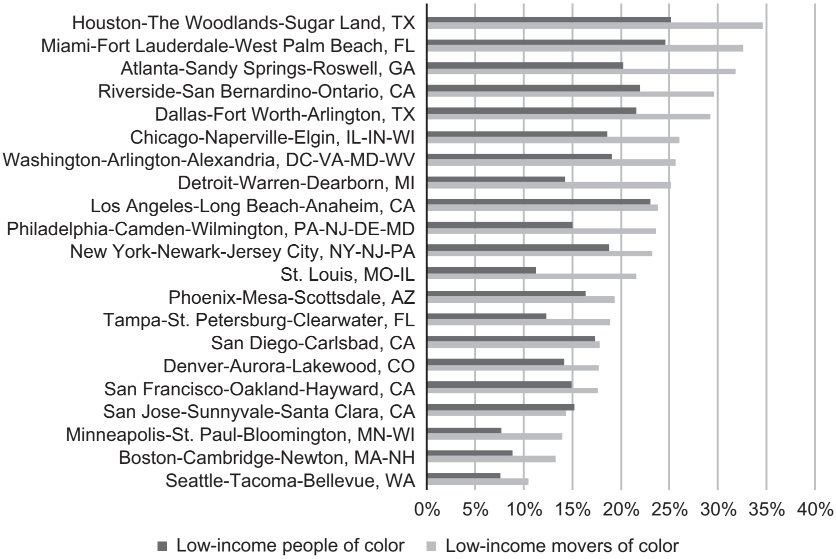


Figure 8.7

Low-income movers of color versus overall low-income people of color, top 21 US metropolitan areas, 2015. Calculations by the authors from the American Community Survey Public Use Microdata, 2015.

(figure 8.7). Across metropolitan areas, low-income people of color are overrepresented among movers relative to the rest of the population. The compound effects of income and race and ethnicity on moving are particularly salient in the metropolitan areas of the Sunbelt (but less so in California's metropolitan areas). These findings are consistent with what we know about the deep vulnerability and instability of low-income communities of color (Desmond 2016; Kingsley, Jordan, and Traynor 2012).

Looking specifically at residential mobility among rail transit users, a different picture emerges (figure 8.8). Particularly among the metropolitan areas with extensive transit systems and strong markets (New York; San Francisco; Washington, D.C.; Boston; and Chicago), a disproportionate share of the population reliant on transit for their commute to work are moving. The mobility story for low-income transit users is even more dramatic, with disparities occurring across metropolitan areas. That low-income transit users are disproportionately likely to move is not necessarily because of displacement; it could reflect the relative instability (e.g., because of youth) of their households and housing situations. Still, low-income

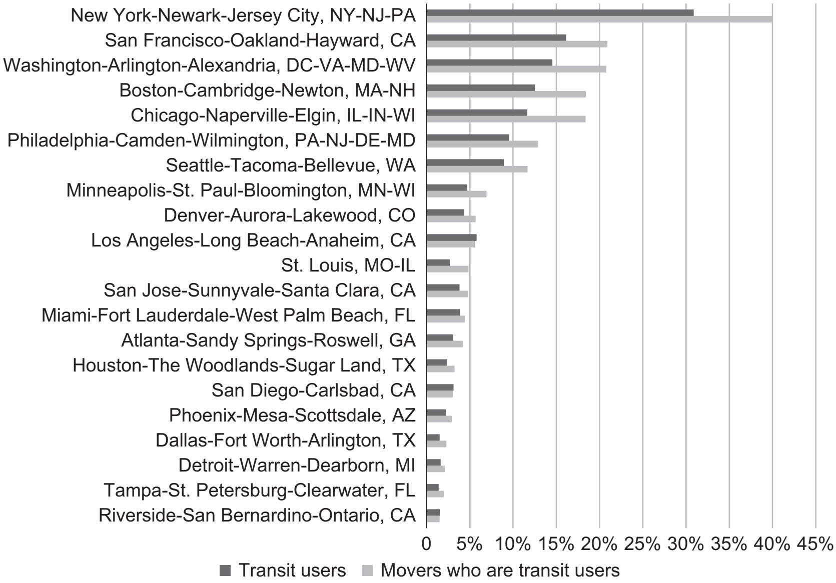


Figure 8.8

Movers who are transit users versus transit users overall, top 21 US metropolitan areas, 2015. Calculations by the authors from the American Community Survey Public Use Microdata, 2015.

transit users are much more likely to move than transit users overall, a finding that merits future research (figure 8.9).

In general, low-income movers, particularly people of color, move to a limited set of neighborhoods. In the Bay Area, over half of low-income people of color move to just three counties: Alameda, Contra Costa, and Solano (figure 8.10). However, a substantial number of low-income transit users move to neighborhoods near transit in Oakland and San Francisco, suggesting that there are some affordable housing opportunities near transit (figure 8.11). In Los Angeles, destinations (within the county) are more dispersed, with noticeable influxes in the north (e.g., Santa Clarita), east (e.g., Boyle Heights), and south (e.g., South Central) (figure 8.12). As in the Bay Area, some transit users are dispersing to places more centrally located, often with rail lines (figure 8.13). Again, more research is needed to understand these patterns, since the data do not track transit use before and after the move; low-income residents using transit may become drivers after a move. Still, these maps suggest overall constraints—likely shaped

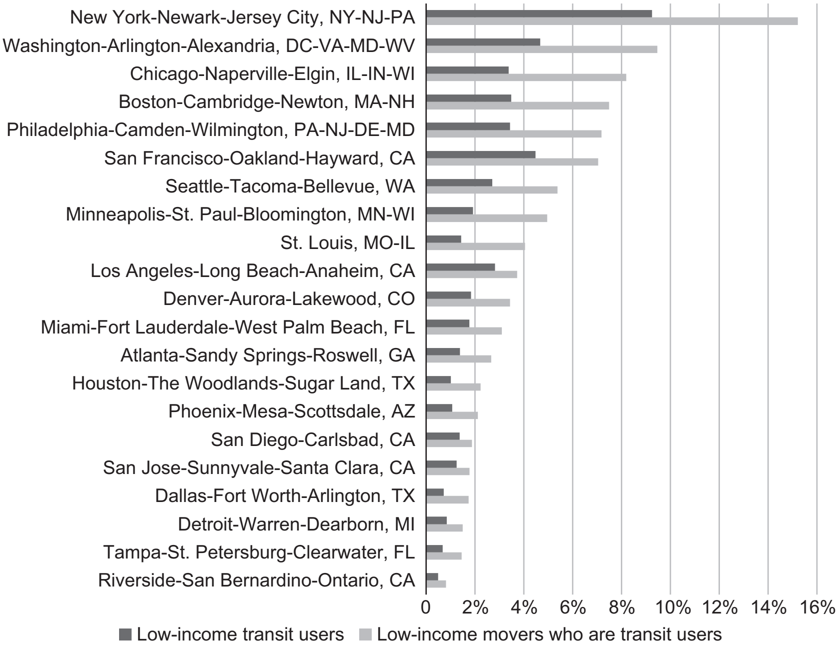


Figure 8.9

Low-income movers who are transit users versus low-income transit users overall, top 21 US metropolitan areas, 2015. Calculations by the authors from the American Community Survey Public Use Microdata, 2015.

by spatial segregation—on where low-income minority households dependent on transit can move.

In general, neighborhoods that have good access to transit are experiencing decreasing inward migration from low-income transit users over time. Transit-friendly areas, including some in the core, in both the Bay Area and Los Angeles experienced a decrease in inward migration of low-income transit users from 2009 to 2015 (figures 8.14 and 8.15). This suggests that transit neighborhoods are becoming increasingly exclusive—another finding that warrants further research.

Conclusion

As this chapter has made clear, the lack of appropriate data severely constrains our understanding of the relationship between transit investment

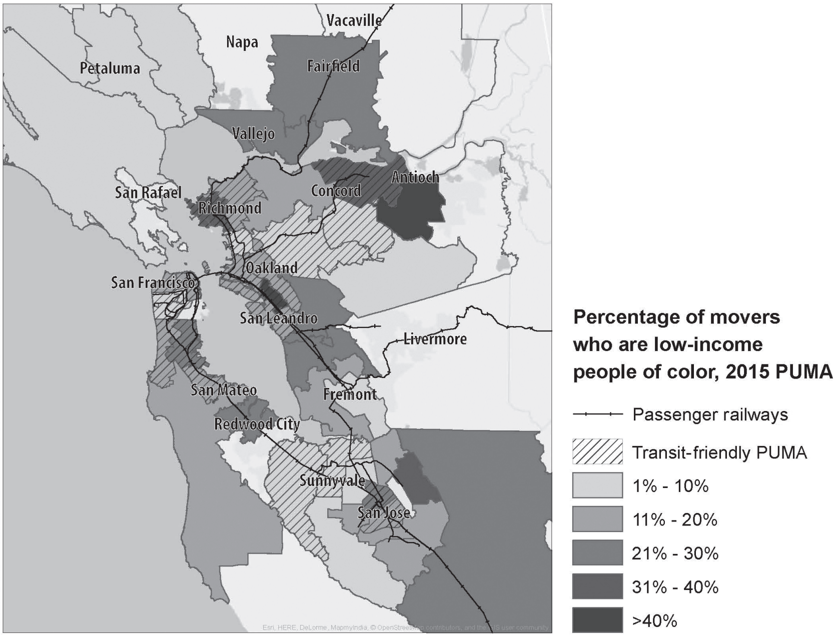
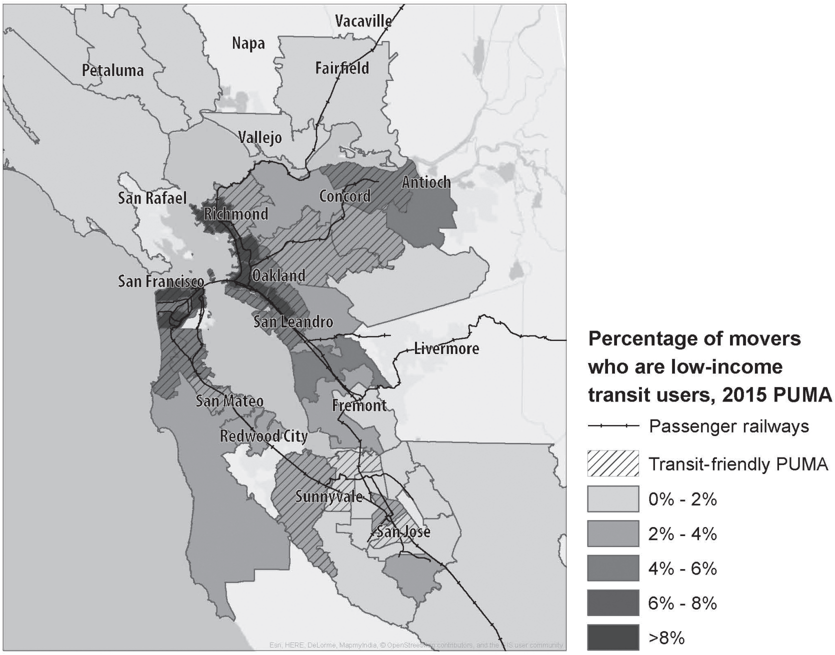

Vacaville
Napa
Fairfield
Petaluma
Vallejo
San Rafael
Concord
Antioch
Richmond
Oakland
San Francisco
San Leandro
Livermore
San Mateo
Fremont
Redwood City
Sunnyvale
San Jose
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community
Percentage of movers who are low-income people of color, 2015 PUMA
Passenger railways
Transit-friendly PUMA
1% - 10%
11% - 20%
21% - 30%
31% - 40%
>40%

Figure 8.10

Move destinations of low-income people of color, San Francisco Bay Area, 2015.


Vacaville
Napa
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Petaluma
Vallejo
San Rafael
Antioch
Concord
Richmond
Oakland
San Francisco
San Leandro
Livermore
San Mateo
Fremont
Redwood City
Sunnyvale
San Jose
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community
Percentage of movers who are low-income transit users, 2015 PUMA
Passenger railways
Transit-friendly PUMA
0% - 2%
2% - 4%
4% - 6%
6% - 8%
>8%

Figure 8.11

Move destinations of low-income transit users, San Francisco Bay Area, 2015.

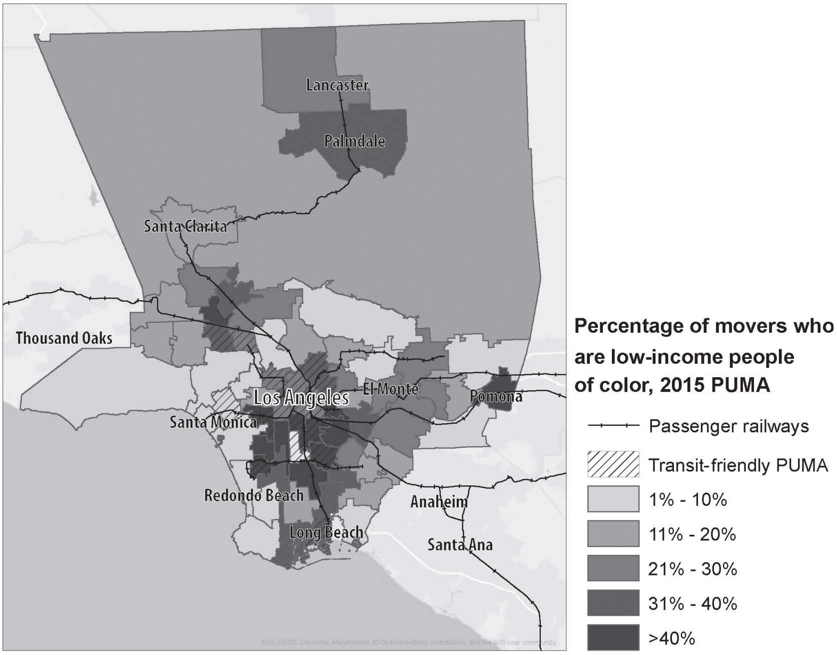

Lancaster
Palmdale
Santa Clarita
Thousand Oaks
Los Angeles
El Monte
Pomona
Santa Monica
Redondo Beach
Anaheim
Long Beach
Santa Ana
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community
Percentage of movers who are low-income people of color, 2015 PUMA
Passenger railways
Transit-friendly PUMA
1% - 10%
11% - 20%
21% - 30%
31% - 40%
>40%

Figure 8.12

Move destinations of low-income people of color, Los Angeles County, 2015.

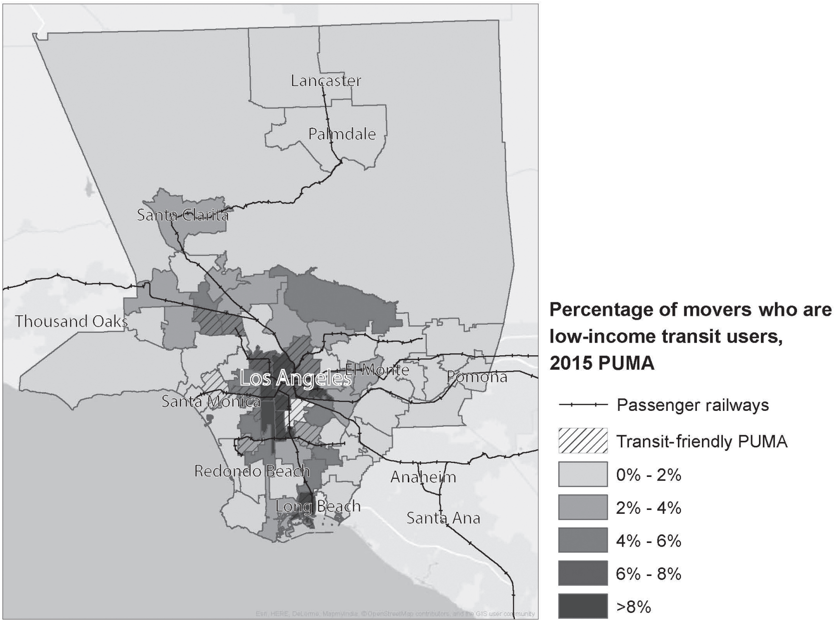

Lancaster
Palmdale
Santa Clarita
Thousand Oaks
Los Angeles
El Monte
Pomona
Santa Monica
Redondo Beach
Anaheim
Long Beach
Santa Ana
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community
Percentage of movers who are low-income transit users, 2015 PUMA
Passenger railways
Transit-friendly PUMA
0% - 2%
2% - 4%
4% - 6%
6% - 8%
>8%

Figure 8.13

Move destinations of low-income transit users, Los Angeles County, 2015.

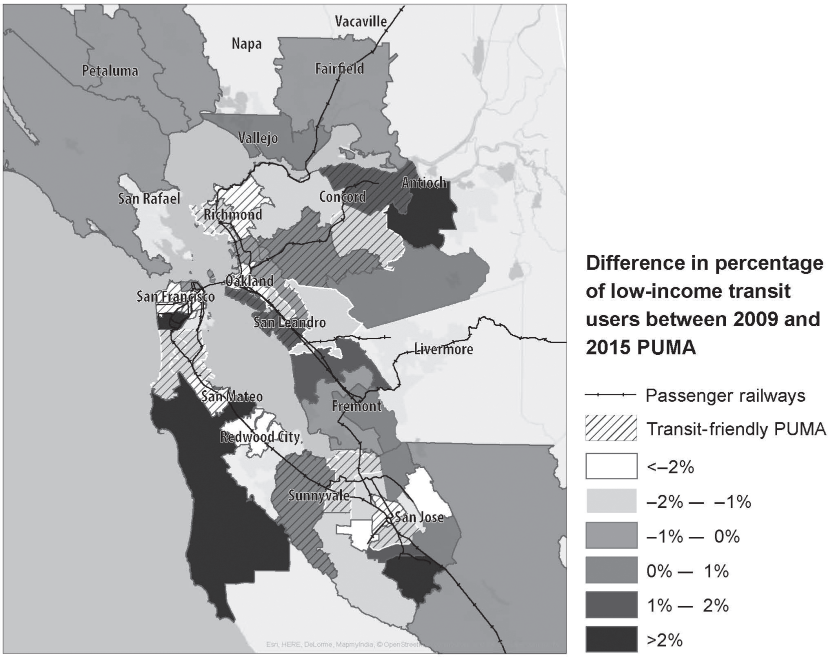

Vacaville
Napa
Petaluma
Fairfield
Vallejo
San Rafael
Antioch
Concord
Richmond
Oakland
San Francisco
San Leandro
Livermore
San Mateo
Fremont
Redwood City
Sunnyvale
San Jose
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap
Difference in percentage of low-income transit users between 2009 and 2015 PUMA
Passenger railways
Transit-friendly PUMA
<–2%
–2% — –1%
–1% — 0%
0% — 1%
1% — 2%
>2%

Figure 8.14

Change in low-income transit-using movers in, 2009–2015, San Francisco Bay Area.

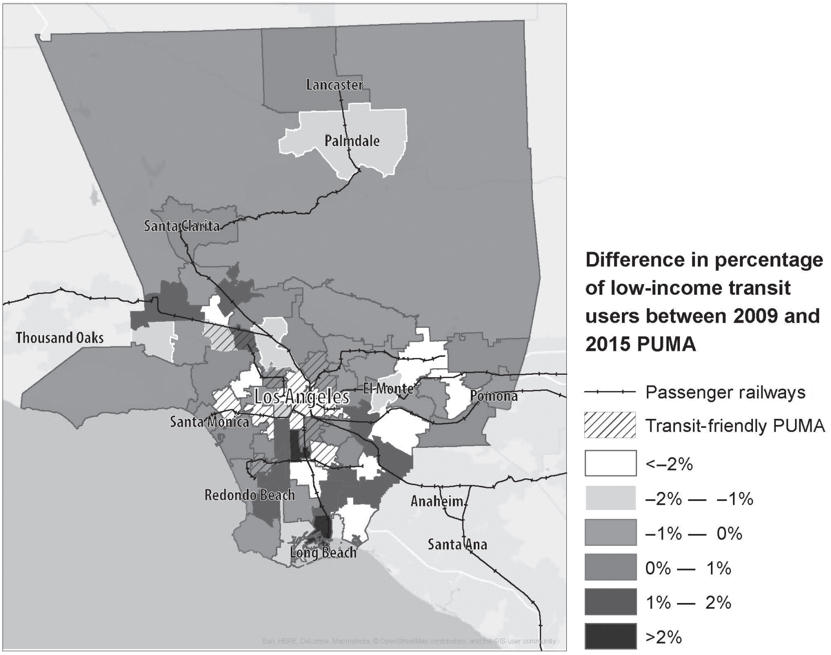

Lancaster
Palmdale
Santa Clarita
Thousand Oaks
Los Angeles
El Monte
Pomona
Santa Monica
Redondo Beach
Anaheim
Santa Ana
Long Beach
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community
Difference in percentage of low-income transit users between 2009 and 2015 PUMA
Passenger railways
Transit-friendly PUMA
<–2%
–2% — –1%
–1% — 0%
0% — 1%
1% — 2%
>2%

Figure 8.15

Change in low-income transit-using movers in, 2009–2015, Los Angeles.

and residential mobility (and displacement) of low-income households. Even when data on change of addresses are available, they tend to undersample low-income minority households and offer only a short time frame for analysis. This may understate the extent of displacement near transit, since, as we have shown in previous chapters, it is a process that may take decades to unfold.

Furthermore, most secondary data on residential mobility do not track whether the move is voluntary, or survey results may report evictions as representing the universe of forced moves when many moves without a formal eviction process are also involuntary. In this chapter, we use low-income household mobility to represent potential displacement while recognizing that some low-income households are moving by choice.

Even though the evidence of how transit affects the residential mobility of low-income households is inadequate, it does suggest a relationship. Low-income communities of color experience unstable housing conditions, and the dynamics unleashed by transit investment tend to create more instability, not less. Moreover, because of both segregation and social networks, low-income households tend to move close to their original residence—just five miles away or less—yet are likely to end up in poorer-quality neighborhoods, likely farther away from transit. In the following two chapters, we examine in more detail what regional transportation planners and policymakers more generally can do to help stabilize communities near transit.

9 Integrating Displacement into Regional Transportation and Land Use Models

Gentrification and displacement may occur in specific neighborhoods, but they also have important regional impacts. As we will discuss in the following chapter, antidisplacement strategies need to be considered regionally rather than only within the neighborhoods where such trends develop. But how can planners predict and then respond to residential displacement at the regional level? Unlike many countries in Europe or Asia, the United States does not have a strong tradition of regional planning. One exception is for transportation. Metropolitan planning organizations (MPOs) can have substantial influence on where transportation projects get built and on the balance of investments related to highway capacity, transit, and maintenance of existing infrastructure. These transportation investments are generally evaluated and prioritized through a quantitative analysis process that relies on models of travel demand and network characteristics that predict travel shares by transportation mode, distance traveled, congestion patterns, and greenhouse gas emissions, among other outcomes.

What is not sufficiently addressed in typical planning processes is how these transportation plans influence the nature and spatial patterns of urban development, which in turn influence the origins and destinations of travel demand and may also have gentrification and displacement impacts. Ignoring these long-term "induced demand" effects of transportation projects has become a major concern for planners, since it can lead to biased estimates of the impacts of different types of projects (Downs 2000, 2005). For example, the expansion of a highway may lead to sprawl: low-density development at the periphery of the metropolitan area that generates substantial traffic on the expanded highway, eroding its capacity to ease congestion (Waddell 2002, 2011; Waddell et al. 2007). In contrast, transit projects may lead to intensification of development around stations, which may in turn shift travelers to the transit system by enabling more residents to live close to transit and access more jobs also close to transit (Cervero, Ferrell, and Murphy 2002). These feedback effects have an important impact on urban design and environmental sustainability, as well as on the transportation system.

While traffic congestion generated by shifts in travel mode shares and a reduction of transit ridership are of concern to metropolitan transportation agencies, this book primarily addresses the growing concern that transit investments might increase rents for housing in close proximity to the transit stations, thereby aggravating the potential for displacement of low-income households from transit neighborhoods. Such outcomes will have regional transportation and housing market effects. For one, if the displaced households are transit users and are priced out of neighborhoods with good transit service, then they may end up switching from transit to other travel modes such as driving. In addition to the adverse impact on individual households, this dynamic could also undermine some of the anticipated environmental and traffic congestion benefits from higher-intensity TOD development around transit stations.[1] Additionally, if the increased rents and housing prices lead to displacement of households, this may have effects within and outside the jurisdiction, pushing households out of the neighborhood, or out of the city to less desirable but cheaper neighborhoods, or even into homelessness (powell 1999).

It is therefore important to incorporate issues of housing affordability and residential displacement into the models that planners use. This chapter discusses this topic, drawing from efforts to incorporate housing affordability and residential displacement into the forecasting models that are used for regional planning in the San Francisco Bay Area. We begin with some background about land use modeling, the local policy context, and mechanisms of displacement, and then describe a series of adaptations that can be made to regional land use models to improve their ability to evaluate the affordability and displacement implications of regional planning scenarios.

The Checkered History of Models in Regional Planning

Systematic data collection and analysis for regional transportation planning dates back to the Detroit Metropolitan Area Transportation Study (City of Detroit 1955, 1956), which developed an origin-destination study and an early computational approach to modeling traffic on networks.

Subsequently, the Chicago Metropolitan Transportation Study (City of Chicago 1959, 1960, 1962) extended the methods used in Detroit. Neither of these early projects considered transit in their data and analytical approaches. These innovations were subsequently generalized and refined into a methodology and a set of computer programs that over the years has become known as the "four-step transportation model," incorporating trip generation, trip distribution, modal split, and traffic assignment (United States Department of Commerce 1964), based on a set of land use forecasts.

During the 1960s, several attempts to take a more integrated approach to land use and transportation emerged, including the development of the Herbert-Stevens model, which attempted to reflect a competitive bidding process for residential locations (Herbert and Stevens 1960), elaborated further by Britton Harris (Harris 1961), intended to support the regional planning process of the Delaware Valley Regional Planning Commission. These efforts were innovative and ambitious but did not lead to operational use and broader adoption.

By contrast, the work of Ira Lowry to develop a "Model of the Metropolis" (Lowry 1964) as a gravity or spatial interaction model in which households are allocated to zones of employment locations based on travel times did lead to the development of many variants that became used by numerous planning organizations (Putman 1983). These models lacked any representation of housing markets and prices, however, and by the 1990s they had mostly been abandoned in operations.

One other approach to integrated land use and transportation modeling emerged from the work of macroeconomists to model the structure of the national economy using input-output models that summarize the monetary flows between industry sectors and external markets (Isard 1951; Leontief 1951). The input-output modeling approach was extended to approximate the economic flows between areas within a metropolitan region and thereby were adapted to support integrated regional transportation and land use modeling; a number of such input-output models have been developed (De la Barra 1989; Echenique et al. 1990; Hunt and Abraham 2005).

After years of substantial investments in these early models, Douglas Lee discussed their disappointing results in "Requiem for Large Scale Urban Models," citing "seven deadly sins," which included excessive cost, data-hungriness, and being overly mechanical and ultimately not very relevant or useful for policy analysis and decision support. His article had a lasting impact, diminishing the enthusiasm for such models (Lee 1973, 1994).

Until the new millennium, these models were only able to assess aggregate relationships among zones of a city or region. This limited their accuracy and made them difficult to validate, because there are many conceivable factors that may influence overall urban change (Lee 1994). Improvements in computation have allowed models to track finer-grained connections, and the emerging standard is to simulate individual households, housing units, and travel decisions. Although the total number of calculations is greater, these newer models are easier to validate and interpret because the components directly correspond to observable urban processes: household relocation decisions, prices of individual housing units, development profitability, and so on (Waddell 2002, 2011).

More recently, some models have tried to simulate neighborhood change associated with gentrification. These models can be divided into three categories: (1) "multiagent systems," which seek to represent the movement of individuals and households into spatial patterns of settlement; (2) "cellular automata," which seek to capture interrelated patterns of change among spatially fixed entities (such as housing units or entire neighborhoods); and (3) hybrid models that seek to combine the two, including both spatially fixed and spatially mobile entities and agents (Zukin, Kasinitz, and Chen 2015). Thus, MPOs often seek to utilize integrated land use and transportation models that try to simulate the individual decisions and interactions of households and/or businesses, fixed urban form characteristics (such as buildings and transit), and larger structural frameworks (such as land use regulations) (Johnston and McCoy 2006).

Overall, however, few regional simulation models focus explicitly on gentrification, possibly because of the challenges of accounting for the variety of gentrification mechanisms (Torrens and Nara 2007) and for their frequent lack of detailed empirical data in their specification of agent and parcel attributes (e.g., baseline parcel rents, agent incomes). Additionally, a very important shortcoming of many of these models is their lack of incorporation of measures of race and ethnicity, despite empirical evidence that this variable importantly shapes housing decisions (Charles 2003; Pais, South, and Crowder 2012).

Despite their shortcomings, these models are increasingly being used by MPOs in their efforts to respond to regional concerns of housing, transportation, or environmental quality. Recent policy initiatives in California, for example, provide an illustration of how such models can be used. As described in chapter 1, the passage of AB32 in 2006 and SB375 in 2008 required MPOs in California to develop Sustainable Communities Strategies.[2] SB375 calls on MPOs to consider how land use and transportation plans can be better coordinated in order to reduce greenhouse gas emissions, and to coordinate further with the Regional Housing Needs Allocation (RHNA) process. It is this last point that implicates the issue of transit investments triggering displacement.

While California is somewhat of an outlier in the US context by pressing for integrated planning of land use, transportation, greenhouse gas emissions, and affordable housing needs, other states and metropolitan areas in the United States are beginning to more rapidly adopt integrated microsimulation modeling approaches to support their regional planning efforts by addressing not only the technical challenges of integrated modeling but also the institutional challenges of integrating regional transportation planning with local land use planning (Waddell 2011). These integrated models are now increasingly being used in Europe (Bierlaire et al. 2015) for sustainability planning. They are also being used in parts of the Global South, such as in South Africa, for addressing rapid urbanization and inadequate infrastructure and housing programs (Council for Scientific and Industrial Research [CSIR] 2017).

Effects of Transit Investment and Upzoning on Prices and Rents

As discussed elsewhere in this volume, there is growing concern that there may be unwanted side effects of well-intentioned planning efforts to intensify development around transit stations, which is often referred to as transit-oriented development (TOD). Additional housing, businesses, and public investment, and improved levels of transit service, increase the appeal of these neighborhoods, which has the potential to raise home prices and rents, even when the supply of housing increases. Accessibility to employment and urban amenities is one of the primary influences on land values, housing prices, and rents, as well as on rents and prices of nonresidential buildings. This relationship is depicted in figure 9.1, which shows the correspondence between accessibility patterns (represented by the number of businesses within 5 kilometers, or 3 miles) and housing cost (represented by the median asking rent in online listings) in the Bay Area.

If the real estate market were able to respond to increased demand for TOD locations by constructing substantial new development, the additional housing supply could at least partially offset the higher demand, but several

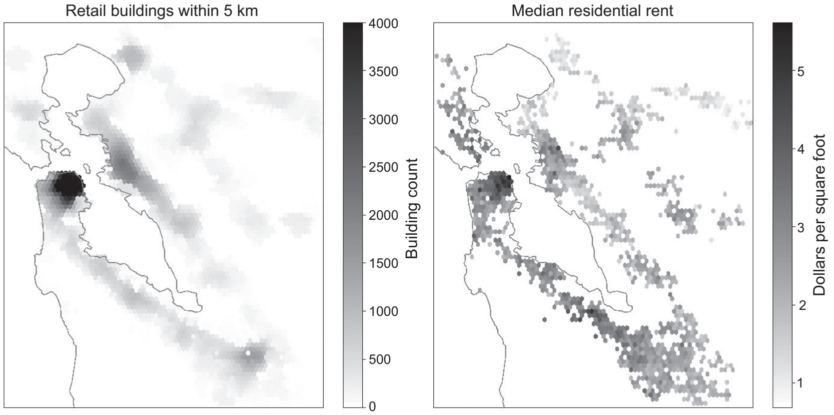


Figure 9.1

Accessibility and housing cost show similar patterns in the Bay Area.

Note: Code used to generate results and figures in this chapter is available at https://github.com/ual/displacement-chapter-replication.

Sources: Based on data from MTC's 2010 UrbanSim model and 2014 Craigslist posts.

factors tend to inhibit this from happening. First, local governments may not zone for high enough development intensity to meet demand. This is often because of community resistance to increased density (and related NIMBY concerns), which pressures the municipality to keep zoning more constrained than what the market would support.

A second consideration is that higher-density development, at certain thresholds, increases construction costs substantially. Once developers move from two-to-three-story "frame-on-podium" construction to higher densities, a variety of changes in construction technology may be required—steel frames, elevators, and structured parking, for example—all of which raise costs. In order to realize sufficient profit to attract investment capital for construction loans, developers have to target a higher price for the finished units. In turn, this may lead to higher-quality materials and amenities, and the cumulative result is to put upward pressure on prices and rents.

A third challenge is land prices. As public investments and zoning changes are rolled out, owners of large land parcels may anticipate that these are good spots for high-end development. They will demand a higher price for the land when a developer seeks to acquire it, thus in effect precluding lower-cost housing. This was well documented in Southern California when the cost of land around prospective Blue Line stations went up significantly even before rail construction was initiated (Loukaitou-Sideris and Banerjee 2000). Some jurisdictions have implemented value capture or community benefits policies in order to redirect some of this windfall toward public objectives, but in most jurisdictions, a substantial portion of the value from new TOD investments and zoning entitlements accrues to current property owners. This translates into a higher cost for developers, which is passed on to homebuyers and tenants in the form of higher housing prices and rents. As we will discuss, this creates winners and losers. On the losing side are the lower-income, often minority, households that cannot afford the higher rents of new development.

Effects of Increased Prices and Rents on Displacement: Winners and Losers

Through a combination of increased demand, constrained supply, and increased development costs, it is not unreasonable to anticipate upward pressure on prices and rents associated with transit investments and localized upzoning intended to stimulate TOD around these investments. The next issue to consider is how these pressures translate into risks of displacement, and who is at risk of such displacement. Here we specifically consider residences, although businesses experience similar dynamics.

The first distinction to address when considering the issue of displacement is how households in different circumstances might be affected. Households that are fortunate enough to own their own condominium or house, whether they are still paying a mortgage or own it unencumbered, receive a windfall benefit if property values increase. Equity in housing remains one of the main sources of wealth accumulation by households in the United States, notwithstanding the devastating effects of the housing recession that began in 2007 and the large number of foreclosures that ensued, which have disproportionately affected low-income and minority households (Flynn et al. 2017).

Still, on the whole, any amenity value that is generated by public investments such as transit, or any increases in entitlement value generated by increases in zoned development capacity, translate to increases in equity value for current property owners whose properties are affected by those public actions. As a result, there is little risk of economic harm from transit investments to the current property owners in those locations receiving additional transit service or being upzoned to increase the density of development.

However, increasing property values are potentially harmful to tenants who are renting affected properties. For renters, appreciation in property values is likely to translate into increased rents, and therefore to an increasing cost burden, or potential eviction if a building owner decides to redevelop or convert apartments to condominiums. We would refer to these two circumstances as *involuntary displacement*, though the term "involuntary" might be subject to interpretation in the event that a household's rent increases to the point of being intolerable and they "voluntarily" decide to relocate to a lower-cost location. We still consider this to be a hardship, so we will use the term "involuntary" to include those who would have preferred to stay but either were evicted or chose to move out because of an excessive cost burden. As is discussed in chapter 10, renters can be protected to some extent by rent stabilization laws ("rent control") as long as they are willing to remain in the same housing unit permanently.

Another population that could be harmed by increasing property values is the low-income renters who could have considered moving to these locations before the transit investment or upzoning but whose income constrains them from moving there once rents increase. We could refer to this circumstance as *exclusionary displacement*. It is a more indirect harm, in the sense that we cannot observe which households would have considered specific neighborhoods before and after a change in rents. Nevertheless, the combination of exclusionary and involuntary displacement could combine to rapidly change the composition of transit neighborhoods toward the elimination of low-income households. Figure 9.2 shows that in certain parts of the Bay Area, rents for newcomers are substantially higher than rents for longer-term residents.

Requirements for Regional Models to Analyze Residential Displacement

The previous discussion makes clear the importance of incorporating housing affordability and displacement pressures into regional transportation planning processes. In this section, we examine how these planning processes use data and models, and what the current limitations are. We will use the Bay Area as an example. Bay Area Metro is the San Francisco region's MPO, formerly divided into the Metropolitan Transportation Commission

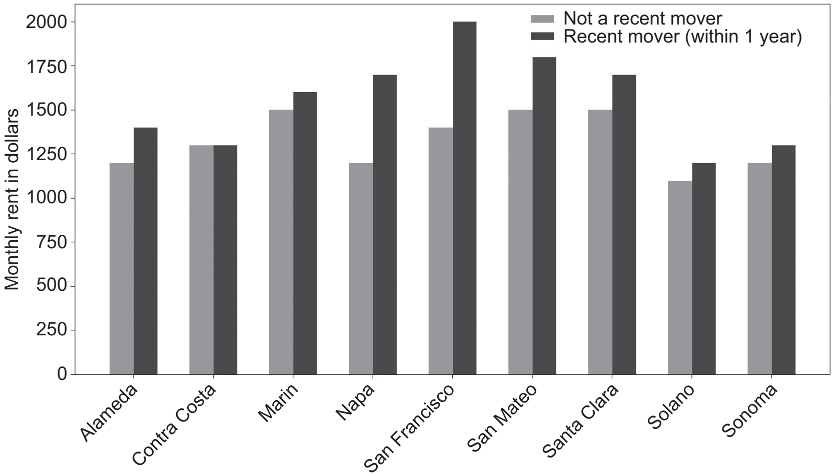


Figure 9.2

Median rent in the Bay Area by county and length of residency. Calculated by the authors from ACS PUMS (2013).

(MTC) and the Association of Bay Area Governments (ABAG). The MPO uses regional models to support transportation and land use planning. These models primarily forecast two things: (a) the travel demands of particular arrangements of households and (b) the development patterns likely to result from different zoning and infrastructure investment scenarios. In order to avoid unnecessary complexity, models typically don't track characteristics such as residential tenure (rent or own), social housing (housing that is subsidized and allocated through nonmarket processes), or racial clustering. This is a problem for our purposes because these factors are key components or indicators of residential displacement.

This section discusses a variety of data attributes and urban dynamics that regional models need to incorporate in order to be more responsive to displacement-related policy questions. Where possible, we illustrate each item using findings from our efforts to account for it in our adaptation of the MPO's operational model, Bay Area UrbanSim.

Broadly speaking, the first consideration is the overall *structure* of the regional model. Microsimulation models are built up from a detailed representation of households, parcels, and zoning, with iterative model components such as real estate price forecasts, household relocation forecasts, and development forecasts. Although not necessarily tuned to the

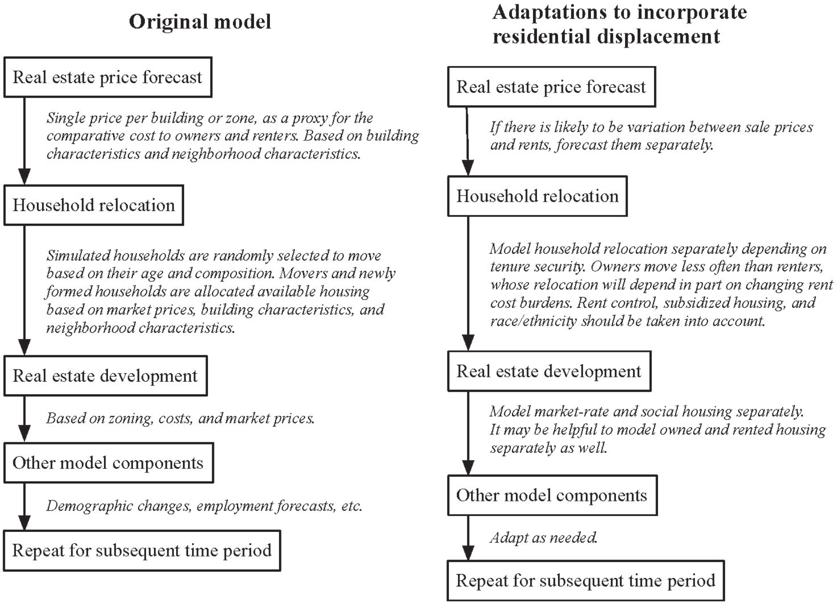

Original model
Real estate price forecast
Single price per building or zone, as a proxy for the comparative cost to owners and renters. Based on building characteristics and neighborhood characteristics.
Household relocation
Simulated households are randomly selected to move based on their age and composition. Movers and newly formed households are allocated available housing based on market prices, building characteristics, and neighborhood characteristics.
Real estate development
Based on zoning, costs, and market prices.
Other model components
Demographic changes, employment forecasts, etc.
Repeat for subsequent time period
Adaptations to incorporate residential displacement
Real estate price forecast
If there is likely to be variation between sale prices and rents, forecast them separately.
Household relocation
Model household relocation separately depending on tenure security. Owners move less often than renters, whose relocation will depend in part on changing rent cost burdens. Rent control, subsidized housing, and race/ethnicity should be taken into account.
Real estate development
Model market-rate and social housing separately. It may be helpful to model owned and rented housing separately as well.
Other model components
Adapt as needed.
Repeat for subsequent time period

Figure 9.3
Components of an original and an adapted model, with the adaptations required to better incorporate displacement dynamics.

mechanisms of residential displacement, these model components can be directly adapted to incorporate the relevant data attributes and dynamics. Figure 9.3 shows how this can happen.

Separate Representation of Rental and Owner-Occupied Housing

Displacement is primarily a concern for low-income households who rent rather than own their homes. Homeowners reap an eventual benefit from increasing property values (albeit potentially offset partially by higher tax bills), but renters face higher costs that may force them to move. Regional land use models have often ignored housing tenure in an effort to simplify predictions of overall development patterns. The rationale for this is that when housing is allocated through market mechanisms—and there are few impediments to owning or renting—sale prices and rents tend to move together in tandem, linked by the "capitalization rate." An area with high sale prices will also have high rents, and either figure is sufficient to calculate whether it will be profitable for a private developer to build more housing, but this ignores the effects of policies that artificially lower rents, as well as critically important distinctions such as the one discussed earlier, that if property values go up, owners become wealthier, whereas renters could be displaced.

Thus, the first and most essential requirement in order for regional models to capture residential displacement is to track which households are renters and which are owners. In addition to tracking the tenure status of *households*, it is also helpful (a) to track *housing units* as being persistently rented or persistently owner occupied and (b) to forecast sale prices and rents separately. Building types, such as apartments or single-family homes, are useful for understanding the market but do not substitute for the tenure distinction. While building types are correlated with tenure, there are numerous exceptions: condominiums are sometimes rented out, as are single-family homes.[3]

The mechanism through which displacement dynamics appear most directly in the model is in the representation of households' decisions to move. Depending on how a model is tuned, a simulated household's chance of moving in a given year is typically either a rate-based probability or a binary prediction that uses factors such as age, household structure, and income. Models adapted to track household tenure can include that as well, which will increase the rate of turnover in the simulated rental housing. Empirically, we know that housing tenure is strongly associated with likelihood of moving: renters move much more often than homeowners. In the Bay Area, for example, 24 percent of renter households move in a given year, but only 5 percent of owner households move.[4] Renting is additionally correlated with lower-income and younger households but remains a strong predictor of moves even after accounting for other household characteristics.

Representation of the Influence of Rent Burden on Household Relocation

Once housing tenure is included in a regional model, we can also incorporate the influence of rent cost burden on household relocation. Figure 9.4 shows the housing cost burden for renters in the Bay Area. We would expect tenants who are paying a higher portion of their income in rent to be more likely to move, especially as market rents in an area rise. Empirical data on this are limited, but what we can observe bears it out. In the Bay Area, households earning a median income of $60,000 and paying 40 percent of their income in rent are 1.5 times more likely to have moved in the past year than those paying 20 percent of their income in rent.

To capture displacement in regional models, we would like to see a dynamic where rising market rents in a neighborhood increase the cost burden for simulated tenants, which would make them more likely to relocate. This can

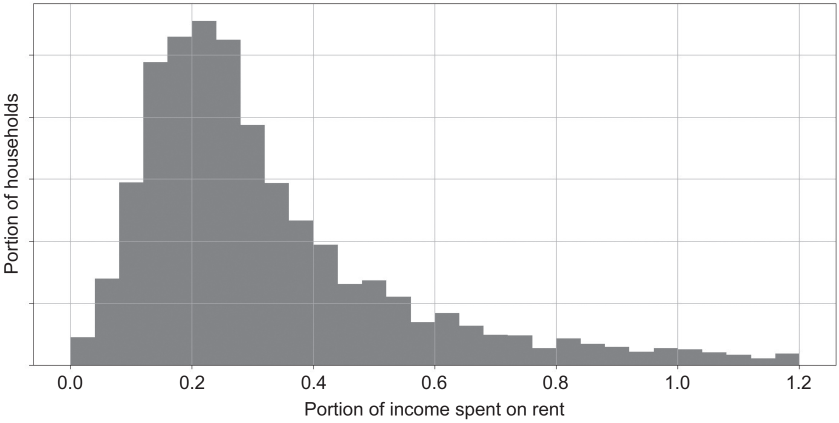


Figure 9.4
Housing cost burden for Bay Area renters. By using resources from family members, savings, loans, or other sources, a number of households spend more on housing than they earn in income. These households have a "cost burden" greater than 1.0, although the implications of this vary, depending on individual circumstances. Calculated by the authors from ACS PUMS (2013).

be incorporated if the model tracks household income, tenure, and market housing costs—rather than simply making renters more likely to move than owners; as in the previous section, the rate-based probability or binary prediction would be adapted to incorporate cost burden as well.[5]

Representation of Rent Control and Social Housing

Two other key factors also affect a household's exposure to rising market rents. First, rent control can protect tenants from rapid increases—especially when accompanied by protections against opportunistic eviction; and second, tenants of social housing (units subsidized by government, nonprofits, or developers and allocated through nonmarket processes such as lotteries that prioritize disadvantaged households) typically pay below-market rates. It would be very helpful to be able to track these two categories of housing in a regional model, but unfortunately they involve some of the largest technical and data acquisition challenges. In the Bay Area, a number of core jurisdictions have rent control statutes (figure 9.5), but the terms vary and typically only apply to a subset of housing units (detailed information is available from the policy inventory described in the chapter 10). We discuss efforts to model social housing provision later.

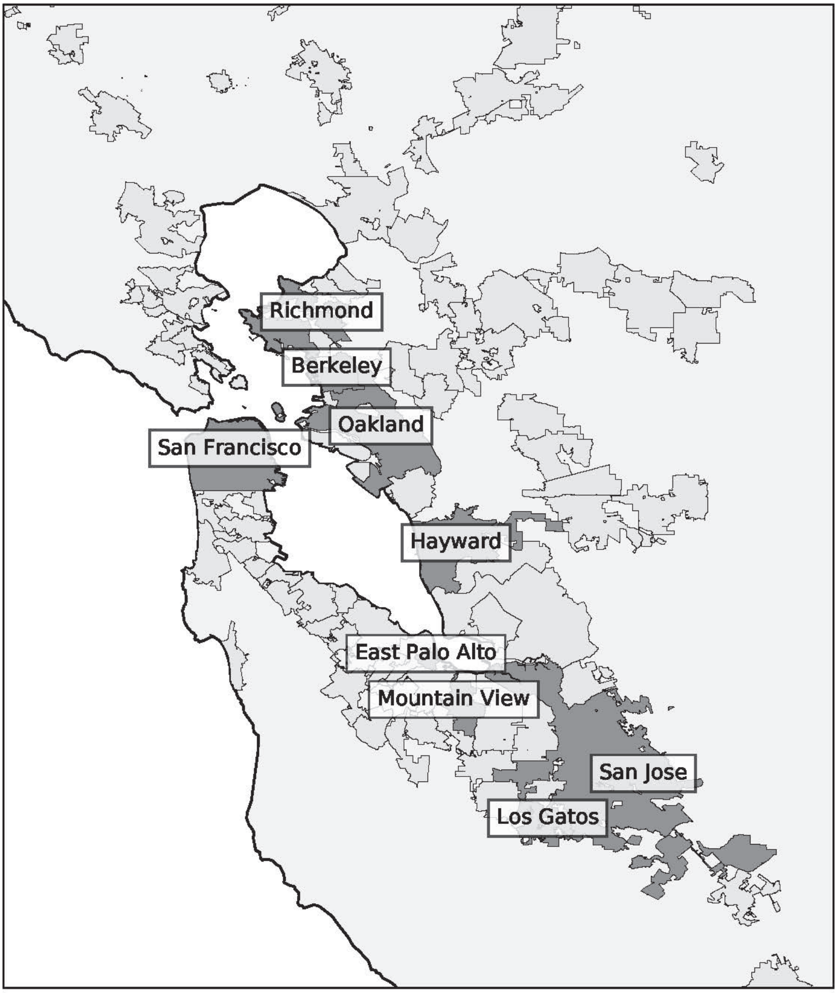

Richmond
Berkeley
Oakland
San Francisco
Hayward
East Palo Alto
Mountain View
San Jose
Los Gatos

Figure 9.5
Jurisdictions in the Bay Area with rent stabilization or rent control.
Source: Zuk and Chapple (2015b).

Representation of the Influence of Rent Burden on Location Choice for Movers

Modeling how movers choose where to live is an ongoing challenge. Empirically, we observe that movers evaluate available housing that fits within their budget, typically choosing neighborhoods (a) that are convenient to their work, (b) where they have more social connections, and (c) that fit a variety of other preferences (as detailed further in chapter 8). Landlords can have substantial discretion over which tenants they accept as well. Because of these disparate factors, it is difficult to generate realistic location choices in a regional model with limited information about people's employment, social connections, and individual preferences. A household's budget is not even necessarily determined by its income: many households use resources from family, savings, public subsidies, or loans to cover rent.

A typical approach is to estimate discrete choice models that predict a household's likelihood of choosing a variety of housing alternatives, based on attributes like the household's age, income, and size, and characteristics of the neighborhood and housing unit. This tends to capture broad patterns of housing geography (wealthy households living in expensive outlying neighborhoods; lower-income households living in denser neighborhoods with more rental housing), although not necessarily through the most realistic mechanisms.[6]

In the context of making regional models more sensitive to residential displacement, we want to at least make sure that the location choice dynamics are consistent with the idea that rising market rents in a neighborhood place it increasingly out of reach for lower-income households. This is closely tied to the *relocation* component discussed earlier: rising rents should make a simulated household more likely to choose to move and, if so, more likely to end up in another neighborhood with lower rents if it is prohibitively expensive to stay close by. (This is discussed in greater detail in chapter 8.)

In the Bay Area model, we found it easier to incorporate social clustering into the location choice modeling than to incorporate cost burdens directly. In other words, households have a tendency to live near others with similar incomes, family sizes, or race or ethnicity, and this pattern is easier to measure than a household's actual budget constraint. (Social clustering is of course more than just a response to cost burdens, as discussed later). In the model, this means that as a neighborhood's demographic characteristics become more dissimilar from the characteristics of a prospective mover, the mover becomes marginally less likely to choose it. This corresponds to the "exclusionary" aspect of residential displacement.

Representation of Fine-Grained Land Use and Accessibility

TOD involves increasing the zoning capacity for higher-density and often more mixed-use development in locations within close proximity (usually walking distance; e.g., a quarter to a half mile) of transit stations. The zoning changes are generally implemented in a special area plan (TOD overlay zone) that applies upzoning on a parcel-by-parcel level of detail, based on proximity and connectivity to the transit station. Ideally, land use models should use the same level of detail.

Some modeling approaches use very large zones or districts, which can obscure the factors that give TOD its appeal. Housing that is a 5-minute walk from transit can have much better nonautomobile accessibility than housing that is a 25-minute walk away, potentially leading to price differences (as explained in chapter 2) and fine-grained patterns of displacement or exclusion that would not show up in a more aggregated model.

In the Bay Area model, we have exploited the use of local street network-based accessibility and moved to a representation not only of parcels but of individual residential units within buildings. This enables appropriate measurement of localized policies and amenity effects in the location choice models (demand), real estate development models (supply), and hedonic models (prices).

Representation of Social Housing Development

A substantial portion of the lower-cost rental stock in the San Francisco region is social housing. Creating and preserving social housing is one of the main policy tools for reducing displacement, so it is important to capture it in regional models.

In the current policy environment, there are two predominant approaches for creating new subsidized housing in the Bay Area. The first is through "inclusionary" housing statutes, which require private developers to incorporate some fraction of subsidized housing into a project (known as "affordable" or "below-market-rate" units) or else pay an in-lieu-of fee to support the construction of subsidized housing elsewhere in the city (figure 9.6). The second is through multifamily housing built with assistance from the Low-Income Housing Tax Credit (LIHTC) program, which incentivizes banks to finance construction of affordable housing by nonprofit developers.

As discussed earlier, an initial challenge for regional models is to represent the *existing* stock of social housing, whose occupants are largely exempt from displacement pressures. The next challenge is to model the creation of new units—in other words, to specify within the regional model how policy choices related to zoning, inclusionary requirements, and subsidy programs

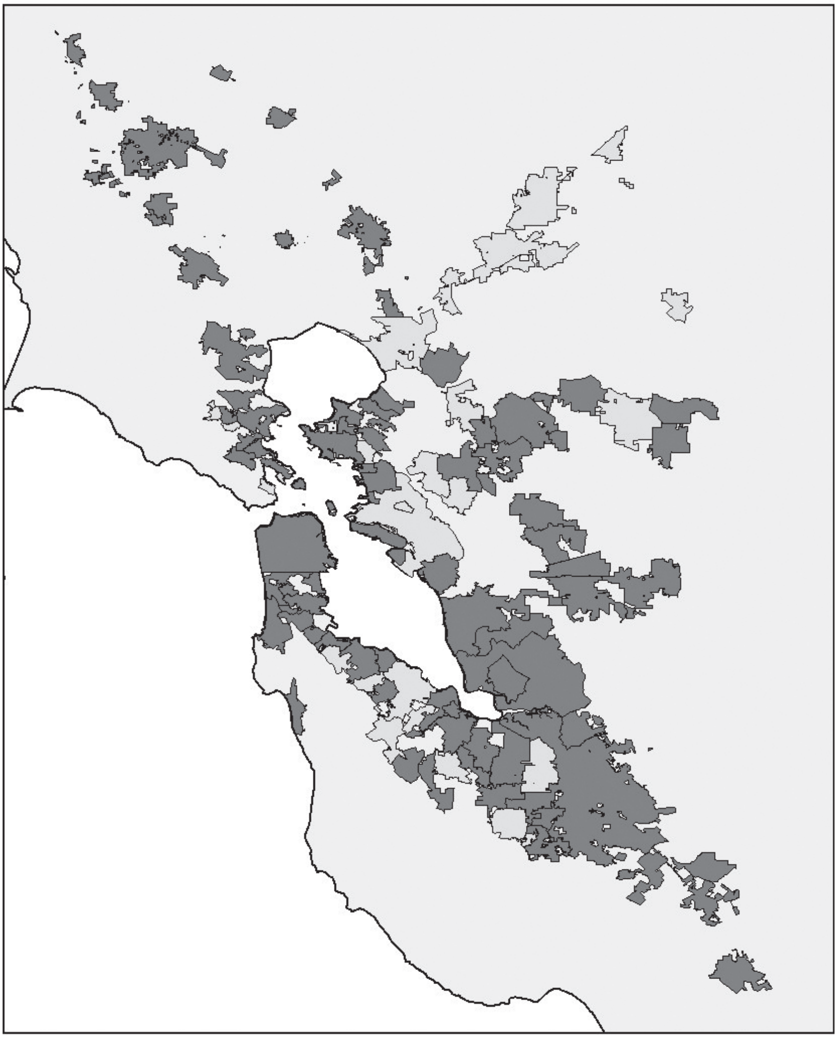


Figure 9.6
Jurisdictions in the Bay Area with inclusionary housing statutes.
Source: Zuk and Chapple (2015b).

will translate into future social housing stock. The approaches to this can be quite different from those used to forecast market-rate development.

In the Bay Area model, market-rate development is derived from a financial model that mimics the decision analysis used by real estate developers. This enables a parcel-level assessment of how housing prices, development costs, and zoning constraints interact to determine which potential development projects are feasible. In simulations, forecasted profitability is a key determinant of where development occurs. Inclusionary housing policies can be directly integrated into this type of model: the subsidy requirement is an extra cost for developers, incentive programs (e.g., allowing higher density in exchange for subsidized units) shift the zoning constraints, and projects that remain profitable will produce a certain number of new social housing units.

Social housing built with outside funding, such as LIHTC-assisted projects, is harder to model. It is not a natural extension of market-rate development feasibility, because neither the funding nor the location choices can be directly determined. Our approach has been to treat it as largely distinct: available funding is an exogenous input, and plausible locations for future developments are determined through an assessment of past projects and the priorities of funders and nonprofit developers. Factors such as cost-effectiveness and zoning capacity are similar to the constraints facing market-rate developers but not necessarily identical (for example, in the case of publicly owned land or special arrangements with a planning commission). Local opposition to development is a factor that deserves further exploration, both in the case of social housing and for market-rate development more generally.

Representation of Race and Household Clustering through Location Choice

Housing markets in US cities are often highly segregated by income, race and ethnicity, and other characteristics, such as household size and stage of life. The history of housing in the United States is littered with racial discrimination practices that created vastly different housing opportunities for white and nonwhite households. Nevertheless, regional models tend to avoid consideration of race and ethnicity, often because of a desire to avoid ascribing different behaviors to such groups—in spite of a large body of theoretical and empirical research that documents how important these dimensions are to understanding the nature of housing markets. History, but also common sense and experience, generally confirms the magnitude of these influences in large, diverse metropolitan areas such as the San Francisco Bay Area. Furthermore, federal and local environmental justice and equity policy mandates motivate the need to at least assess how displacement pressures might disproportionately impact low-income households and households containing African American or Hispanic individuals.

In the context of residential displacement, we are particularly interested in (a) how the racial composition of households leaving a neighborhood differs from that of the households moving in and (b) whether a household's race affects its likelihood of leaving. Race, ethnicity, and other characteristics are straightforward to incorporate into regional models, as long as they are present in the underlying datasets used to generate the simulated households. The additional demographic characteristics can be added as covariates in the statistical models predicting a household's propensity to move and propensity to choose particular neighborhoods.

In the Bay Area estimation data, we found minimal association between a household's race and its propensity to move, after controlling for characteristics such as residential tenure, age, income, household size, and cost burden. However, there was a clear tendency for households to cluster near others with similar demographic characteristics. This shows up in the statistical models of location choice as a higher propensity for households of a certain race to live in a neighborhood with a large proportion of other households of that race, even after controlling for factors such as home prices, building characteristics, accessibility, and income. These models do not identify the causes of the clustering, which may range from benign (community cohesion) to harmful (historic or current discrimination and exclusion), but it seems reasonable to conclude that these tendencies are systematic and that displaced households are less likely to remain in a neighborhood if its racial composition is shifting than if the only change were in household incomes. Incorporating these clustering dynamics into a regional model will help make its long-term forecasts more realistic.

Conclusion

This chapter has reviewed analytical and computational models that have emerged and evolved to support regional transportation planning, and it has examined how these regional transportation planning processes have increasingly been pressed to consider other dimensions, such as the dynamic relationship between land use and transportation and their combined effects on greenhouse gas emissions and housing affordability.

In the preceding sections, we described a variety of ways that regional models can be adapted to improve their ability to represent residential displacement at a neighborhood scale. Roughly, these fall into two categories. The first is to ensure that the right *data attributes* are tracked in the model, including residential tenure, rent control and social housing if applicable, and a fine-grained representation of the amenities that could lead to displacement. The second set of improvements is to specify *model dynamics* that incorporate these attributes and reflect the mechanisms through which displacement operates. This includes estimating and calibrating model steps so that renters are more likely to move than owners, with higher cost burdens further increasing the propensity but with residents of rent-controlled or subsidized housing units spared this pressure. Furthermore, when households move, they should have a tendency to seek out neighborhoods with demographic characteristics similar to their own.

Ultimately, the capacity of a regional model to forecast displacement depends on which urban processes are included in the model and how their dynamics are specified. Incorporating factors such as housing tenure, race and ethnicity, housing cost burden, residential clustering, and displacement mitigation policy levers makes a model's treatment of displacement more complete, realistic, and accurate. Additionally, regional models will benefit from work that improves input data about parcels, buildings, zoning, and development projects in the pipeline. Further work is also needed to refine the real estate development components to be more detailed and robust in their treatment of mixed inclusionary and market rate housing and to improve the modeling of fully affordable housing developments.

If constructed well, regional planning models provide useful tools that can help MPOs and other policymakers begin to understand and address serious concerns about the potential of transit-oriented plans to aggravate housing affordability pressures and contribute to gentrification and displacement within the metropolitan region.

10 Safeguarding against Displacement: Stabilizing Transit Neighborhoods

We started this book by speculating about a tension. On the one hand, sustainability goals encourage compact city forms and denser development around transit networks to minimize greenhouse gas emissions, counteract sprawl, and achieve a smaller ecological footprint and greater utilization of greener transportation modes. On the other hand, such strategies may bring along the unintended effect of displacement of vulnerable groups: low-income residential or commercial tenants. These groups clearly lose if they cannot afford to live in or open a store in a desirable neighborhood or—even worse—are forced to relocate from such a neighborhood because of the increased rents that accompany gentrification.

Using a variety of methods and focusing on the geographic context of two California regions, we found that such concerns are real, and transit-oriented displacement can take place in transit neighborhoods. The phenomenon of transit-induced gentrification, however, is not as pervasive in California as antigentrification activists seem to think. Overall, 11.5 percent of transit neighborhoods in the Bay Area and 8 percent of transit neighborhoods in Los Angeles County experienced residential gentrification between 1990 and 2000 and/or 2000 and 2013. The remainder were either already affluent or saw very little change, perhaps because of the newness of the transit lines. Nonetheless, many of these neighborhoods did experience a significant loss of affordable housing, despite the construction of some subsidized units. Across regions, perhaps the most consistent trend was the relatively small numbers of new housing units constructed near transit.

That said, the displacement of even one household is one too many, and we believe that it behooves planners and policymakers to implement policies and strategies that safeguard against displacement. In this chapter, we therefore interrogate what can be done to prevent displacement in general and in transit neighborhoods in particular. We first detail four categories of antidisplacement strategies and give examples of strategies at five different scales: local, regional, state, federal, and international. We also discuss the effectiveness of antidisplacement strategies and of early warning systems that have been developed to help communities prevent displacement. We conclude with observations about the factors that influence the adoption and effectiveness of antidisplacement policies.

A Framework of Antidisplacement Strategies

A wide variety of interventions to mitigate displacement circulate in the practice literature (Great Communities Collaborative 2007; Haughey and Sherriff 2010; Pollack, Bluestone, and Billingham 2010; Metropolitan Area Planning Council 2015; Lubell 2016), yet little research on the effectiveness of different policies exists. We group the range of antidisplacement strategies into four overarching categories—(1) production of affordable housing, (2) preservation of affordable housing, (3) neighborhood stabilization, and (4) prevention of commercial displacement—and summarize a suite of policy options within each, focusing on examples where these strategies have been tied to transit investments or targeted to TODs.[1]

Producing Affordable Housing

Developing new affordable housing is often considered key to combating displacement as well as ensuring equitable TOD. When analyzing the relative impact of market-rate and subsidized affordable housing on preventing displacement, Zuk and Chapple (2016) found that on a per unit basis subsidized housing had twice the impact of market-rate housing in reducing displacement pressures.[2] A number of policy tools are available to influence the quantity of subsidized affordable housing. These include fiscal strategies to generate resources for development, land use policies to incentivize or prioritize different types of affordable housing, and public investments that can be tied to affordability requirements. In general, affordable housing production strategies can be categorized into those that generate funds to produce units or those that generate or incentivize the production of units. As observed in figure 10.1, the other dimension for understanding affordable housing strategies is whether they are funded by harnessing the market or through public investment.

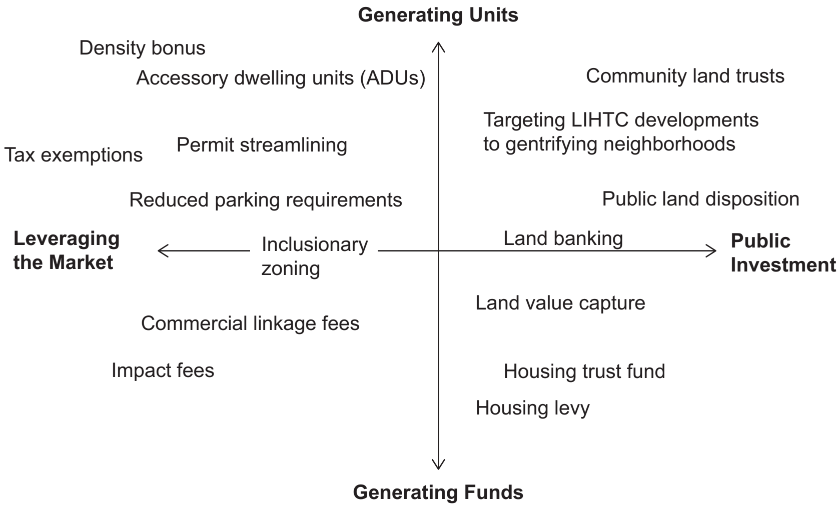

Generating Units
Density bonus
Accessory dwelling units (ADUs)
Community land trusts
Targeting LIHTC developments to gentrifying neighborhoods
Tax exemptions
Permit streamlining
Reduced parking requirements
Public land disposition
Leveraging the Market
Inclusionary zoning
Land banking
Public Investment
Land value capture
Commercial linkage fees
Impact fees
Housing trust fund
Housing levy
Generating Funds

Figure 10.1
Framework of affordable housing strategies.
Source: Adapted from Zuk et al. (2017).

Numerous jurisdictions across the country have attempted to harness market activity to generate funding for affordable housing through impact fees, also known as linkage fees, as well as fees developers pay in lieu of building units as part of inclusionary housing programs. Similarly, commercial impact fees are charged per square foot of commercial or retail space developed, with the logic that these developments create low-wage jobs for people who need affordable housing. While such fees can help fund the development of affordable housing in general, they may not end up funding sites in rapidly appreciating areas, such as transit neighborhoods, as a result of rising land costs and challenges related to site acquisition. On the public investment side, jurisdictions can use their taxing powers to either fund or incentivize affordable housing development by providing property tax exemptions, levying parcel taxes, issuing bonds, or creating tax increment financing (TIF) districts, among other methods.

Perhaps the most commonly used strategy for generating units by harnessing the real estate market is the creation of inclusionary (also known as “below market rate”) zoning requirements for market-rate developments. As opposed to requiring affordable units, some cities and counties choose to incentivize them through density bonuses, allowing developers to build at higher densities in exchange for affordable housing. For example, the Los Angeles Gold and Blue Line TOD Ordinance allows a density bonus of up to 50 percent in certain transit neighborhoods along the Gold and Blue lines if at least one-third of the new units are for low-income households or half of the units are reserved for qualifying senior citizens.

State of California law also provides an adjustable density bonus in exchange for affordable housing units (the greater the percentage of affordable units provided, the higher the bonus) in new construction, and municipal agencies may further enhance this bonus. Typically, a new development would receive a 10 percent to 33 percent bonus in dwelling units per acre, or 0.25 to 1.0 additional floor area ratio (FAR) for nonresidential development (based on existing bonus provisions in several Los Angeles cities). To spur the development of even more units, some cities reduce parking requirements as well (Litman 2009).

Density bonuses can be strong incentives in cities where there is significant market interest in developing at greater densities or heights than what is permitted under existing zoning. On the other hand, in the low-density landscape of single-family homes, some cities have enabled density increases with an eye toward increasing affordable housing by allowing homeowners to build *accessory dwelling units* on their property. Chapple et al. (2011) discuss how the creation of these relatively low-cost “granny flats” helps increase the stock of housing units for those with very low or low incomes without dramatic increases in parking demand and without government investment. Finally, cities have used their assets and investments to subsidize the development of new affordable housing through the dedication of public land for affordable housing and through acquisition and banking of land (Hickey and Sturtevant 2015; Lane and Seifel 2015).

Some of the preceding tools have been used to ensure creation of affordable housing in TODs. Examples include the city of Portland, which has used its redevelopment authority to create tax increment financing (TIF) districts,[3] which are the city’s primary local funding source for affordable housing projects; in 2015, the city council increased the TIF set aside for affordable housing from 30 percent to 45 percent (Templeton 2015). In Atlanta, the city council created the Atlanta BeltLine Affordable Housing Trust Fund from the tax allocation district in order to promote the creation and preservation of affordable housing within Atlanta BeltLine neighborhoods. Finally, as we will discuss in greater depth, Portland’s transit agency, TriMet, acquired and banked land adjacent to their light rail expansion, which they later dedicated to subsidized affordable housing development in an effort to stabilize gentrifying neighborhoods (Zuk and Carlton 2015).

Preservation of Existing Affordable Housing

Many built-out neighborhoods experiencing displacement pressures may have little room for new development. Furthermore, the cost of new development in strong housing markets, where the cost of land is very high, may make the production of new subsidized housing prohibitively expensive. Therefore, strategies for preserving affordable rental units in older buildings may be more cost-effective and feasible for counteracting displacement forces in such communities. By ensuring that this housing stock is permanently affordable, policies essentially remove it from upper-income markets, pushing these households into costlier newer construction.

Preservation of affordable housing includes the act of extending the affordability of either subsidized or unsubsidized rental homes that are at risk of no longer being affordable for low-income households. For subsidized rental housing, preservation refers to renewing a subsidy when it is due to expire. With unsubsidized rental housing, preservation usually refers to mission-oriented buyers (often nonprofits) purchasing rentals at risk of becoming unaffordable and investing to rehabilitate the units while also keeping rents at levels that are affordable to low-income persons (Schwartz et al. 2016).

While the range of preservation tools is just beginning to emerge, many strategies fall into the same funding categories as discussed in the housing production section, allowing funds to be used for rehabilitation and preservation purposes. The Low-Income Housing Tax Credit (LIHTC) program, for instance, provides tax credits for acquisition and rehabilitation projects (United States Department of Housing and Urban Development 2017). Yet the vast majority of low-income households live in unsubsidized units. Although many federal resources can be used to acquire, rehabilitate, and convert nonsubsidized units into subsidized ones, many of these units are in smaller buildings, which can be difficult to finance (Abdelgany 2017). To address this challenge, the city of San Francisco created the Small Sites program, an acquisition and rehabilitation loan program that assists nonprofit and for-profit entities in buying small housing developments of 5–25 units and restricts their rents for long-term affordability. Acquisition and land banking for TOD can be especially complicated because of the long time horizon for transit project developments, which may require longer loan repayment terms than other acquisition projects (Enterprise, The National Housing Trust, and Reconnecting America 2010). In Denver, the Transit-Oriented Development Fund was created to address this challenge and provides loans at below-market interest rates for terms up to five years for the strategic property acquisition in current and future transit corridors (Urban Land Conservancy n.d.).

Community land trusts (CLTs) can also play a significant role in the preservation and production of affordable housing in transit-served and/or gentrifying neighborhoods. CLTs are nonprofit corporations that develop and steward land in perpetuity for community-serving purposes, which can include affordable housing. For example, the Atlanta Trust Collaborative, a coalition of public, private, and nonprofit partners, supports the establishment of community land trusts along a 22-mile railroad corridor around Atlanta in order to prevent displacement and develop opportunities for affordable home ownership (Hickel 2017).

Finally, cities are experimenting with using their inclusionary zoning policies, discussed earlier, to acquire existing units and stabilize them rather than producing new units or providing in-lieu fees. In his policy brief on flexible inclusionary housing policies for high-cost, dense urban environments, Hickey (2015) found examples from New York City to Chapel Hill, North Carolina, where developers are allowed the option of converting existing market-rate housing to deed-restricted affordable units as a means of preserving affordability and preventing displacement.

Neighborhood Stabilization

As rents in transit neighborhoods rise, advocates often point to the need for tenant protections, rent regulation, and other strategies to ensure that existing residents are able to stay in the changing neighborhood. We group the tools available for stabilizing neighborhoods not covered in the previous two sections into those that focus on people or place and are either preventive or responsive to displacement pressures (table 10.1).

People-focused strategies People-focused preventive strategies are meant to either limit the ability of landlords to push tenants out of their homes or to help tenants meet requirements to stay. Just cause eviction policies that limit the reasons for which landlords can evict tenants are often adopted

Table 10.1
Framework for organizing neighborhood stabilization strategies

	Preventive	Responsive
Strategies focused on people	Landlord antiharassment protections Just cause for eviction ordinances Rental/foreclosure assistance Tenant counseling	Relocation benefits Right to return policies Evictee or neighborhood preference policies in housing subsidies
Strategies focused on place or housing units	Condominium conversion restrictions Rent regulation Right of first refusal Community land trusts Proactive code enforcement	Vacancy control in rent regulations No-net-loss or one-for-one replacement

along with rent regulation, discussed later. In an effort to prevent landlords from pushing out tenants through more informal means, jurisdictions have also adopted antiharassment protections. Other examples of people-focused preventive strategies include rental assistance to aid tenants who are late on their rent and counseling to help tenants know their rights and seek resources.

People-focused responsive strategies include relocation benefits and right of return policies. Relocation benefits are frequently required by government agencies that are acquiring properties and displacing residents through eminent domain. Such policies are particularly relevant for large-scale transit investments. Such benefits are also beginning to be attached to certain eviction cases (e.g., owner move-in evictions), which may become more common in neighborhoods receiving increased interest and investments (as shown for San Francisco in chapter 5). Right of return policies seek to guarantee displaced tenants the ability to move back into redeveloped properties and may also be relevant and appropriate for properties or communities of color disrupted by transit improvements.

Strategies focused on place and housing units To give tenants a chance to stay in their units even if landlords want to sell, several jurisdictions have developed policies to give tenants the right of first refusal for purchasing the property (Harrison Institute for Public Law 2006). Other jurisdictions have limited landlords’ ability to convert multifamily rentals to ownership units through condominium conversion controls. Such conversion controls are widespread in coastal regions of California, with over 67 percent of Bay Area cities and 27 percent of cities in Los Angeles County having some form of condominium conversion ordinance (Crispell et al. 2017).

Finally, when rents begin to rise, advocates and policymakers frequently look to regulate them, in strategies commonly known as rent control or rent stabilization (Minton 1997). The first generation of rent controls sought to keep rents temporarily or permanently below the market (Arnott 1995). Reviews of the policy's effectiveness and impacts have been mixed, and the debate about the policy is ongoing (Keating, Teitz, and Skaburskis 1998). The most common form of rent stabilization today, however, involves protecting sitting tenants by allowing annual rent increases only because of inflation and/or cost increases, and decontrolling units upon vacancy. Nevertheless, context-specific and limited rent control can contribute to population stability and security of tenure in the face of displacement pressures. For example, 35.2 percent of renting households in New York stayed in the same rent-controlled unit from 1990 to 2000, compared to 13.6 percent nationally (Ellen and O'Flaherty 2013).

Preventing Commercial Displacement

As we explored in chapter 7, transit investments can have significant impacts on both residential and commercial land values and rents, spurring significant change in commercial as well as residential districts. Furthermore, transit projects can cause business disruptions during construction as a result of road closures, access impairment, and nuisance generation (e.g., noise and dust). Such disruptions can be especially damaging for small businesses. A number of strategies have been developed to help small businesses weather the construction phase and successfully adapt to the changes that transit infrastructure can bring. In general, funding and programs can be separated into construction mitigation strategies (those that help businesses relocate or survive the construction phase) and business retention and development strategies (those that help businesses adapt and thrive in their changing environments) (Central Corridor Funders Collaborative 2015).

In the mitigation realm, to help local businesses stay open during construction or relocate, grants, loans, and technical assistance can be offered well in advance of construction. In Seattle, Washington, the community development fund (CDF) was created to support businesses along the MLK light rail corridor four years before construction began. CDF payments were made to businesses that were forced to relocate or had operations interrupted because of construction. Funding and technical assistance were offered to help businesses stay open during construction, including help with marketing, access plans, signage, facade improvements, bookkeeping, legal issues, and more. Additional loans were provided to assist immigrant-owned businesses during this phase (PolicyLink 2013). In the twin cities of Minneapolis and St. Paul, Minnesota, the Ready for Rail Business Support Fund was created to provide forgivable loans to businesses along the Central Corridor that could show the light rail construction had resulted in a loss in sales. In addition to this modest safety net, loan programs were created for improvements to off-street parking, marketing and buying campaigns, and other technical assistance. Because of extensive outreach, including the provision of one-on-one technical assistance, over 80 percent of surveyed businesses participated in mitigation activities (Business Resources Collaborative 2015). Finally, in Oakland, California, a fund was created to offer technical assistance and flexible capital to small businesses along the future BRT corridor (Northern California Community Loan Fund 2016).

To help businesses adapt and thrive in their new TOD environments, a number of business retention and development strategies can be offered. In the Twin Cities, a cross-sector partnership of businesses, nonprofit community developers, and local and regional governments was established to support businesses and property owners along the Green Line LRT Corridor. With the goal of ensuring long-term prosperity, growth in the proportion of minority-owned businesses, and sustainable economic development, the collaborative delivered financial, technical, and marketing support to small businesses along the corridor over the course of six years. In a post-construction survey of local businesses, the collaborative found that almost two-thirds of businesses reported that employment and wage levels had stayed the same compared to five years earlier. However, more than half the businesses reported that the number of customers had decreased, with an accompanying decline in sales and profits. Nevertheless, evaluators found that businesses were generally optimistic about their survival, with 78 percent indicating that their business will be operating at its current location in five years (Business Resources Collaborative 2015).

Finally, rising land values and rents as a result of transit investments can negatively impact businesses' ability to stay in their location. Although controls on commercial rents are often discussed as potential solutions, after experiments in New York in the 1950s and Berkeley, California, in the 1980s, there are currently no commercial rent control ordinances on the books in the United States. Cities have also explored other strategies to mitigate rising commercial rents and turnover, such as landlord rebates for property tax savings, eviction protections, and mandatory mediation and arbitration (Tackling Commercial Gentrification 2015). Strategies more commonly used for stabilizing commercial rents, however, include shared equity or community land trust models (Axel-Lute 2011; Brown and Ranney 2015).

Residential Antidisplacement Strategies for Equitable TODs

As outlined by the Dukakis Center's widely cited *Maintaining Diversity in America's Transit-Rich Neighborhoods: Tools for Equitable Neighborhood Change*, planning efforts need to begin early, include diverse stakeholders, and coordinate across agencies, meaning that new partnerships and collaboration need to be formed in order to implement a wide range of coordinated antidisplacement strategies (Pollack, Bluestone, and Billingham 2010). A number of cross-sector partnerships have been created in metropolitan areas around the country to facilitate TOD that is more equitable. One of the initial initiatives was the San Francisco Bay Area's Great Communities Collaborative, which for almost 15 years has worked toward equitable TOD in station area plans (ICF International 2014). Leading the way in terms of impact is the Big Picture Project (BPP) in the Twin Cities, which was formed as a cross-sector partnership aimed at a more coordinated approach to affordable housing development along an 11-mile stretch of the Twin Cities Central Corridor. At the halfway point of their 10-year housing goals, the BPP had built or preserved 3,573 units, or 80 percent of their affordable housing goal, and helped over 900 low-income families (61 percent of its goal) to stabilize their housing (Twin Cities LISC 2016). Similarly, Atlanta's TransFormation Alliance is a 17-member partnership of local nonprofits, developers, banks, and government agencies aimed at promoting equitable TOD. In the realm of affordable housing, they work to find land, collaborate with developers, and partner with transit providers to identify and develop resources for affordable housing development and preservation (TransFormation Alliance n.d.). Finally, the Purple Corridor Coalition in the Washington, D.C., metropolitan area led the creation of the Community Development Agreement and facilitated getting the counties to agree to preserve affordable housing along the corridor (Shaver 2017). Such partnerships are key to achieving success at navigating the complicated landscape of actors and especially at the scales of strategy necessary to achieve coordinated and effective action. Here we present the resources and strategies at five different scales: local, regional, state, federal, and international.

Local Localities can combine a variety of funding sources to develop equitable TOD. Northeast Portland represents a unique case of coordinated planning, investment, and political will to stabilize a rapidly gentrifying neighborhood that was receiving significant transit investments. During the planning of the Max Yellow line, the city and its local transit agency (TriMet) acquired and banked land along the transit corridor. The city created an urban renewal district and TIF to generate funding to match the Federal Transit Administration (FTA) and TriMet funding. When the Yellow Line was completed under budget, TriMet used surplus funds from the Federal Transit Administration (FTA) to acquire properties to stabilize the neighborhood, subsequently seeking a nonprofit to develop affordable housing on one of the acquired sites and to house families that had been displaced. The city of Portland and Metro, the regional planning agency, provided additional funding. Finally, the city's and state's tax abatement and exemption programs made developing affordable housing in rapidly gentrifying neighborhoods feasible.

Regional Regional agencies typically have carrots and sticks related to transportation and infrastructure spending. The San Francisco Bay Area has a long history of developing policies to incentivize smart growth and TOD, some of which have explicitly addressed affordable housing and displacement. In 2012, Bay Area Metro (the region's MPO) established the One Bay Area Grant (OBAG) program to allocate 40 percent of its federal transportation money to the nine county congestion management associations (CMAs) (San Francisco Bay Area Metropolitan Transportation Commission 2012a). With the guiding principle of "using transportation dollars to reward jurisdictions that accept housing" (San Francisco Bay Area Metropolitan Transportation Commission 2012b, 2), the formula used to distribute OBAG funding took into consideration each county's population, past housing production, and future housing commitments, and added weighting to acknowledge housing production for those with very low and low incomes. The CMAs then created scoring plans for the competitive process of distributing the funds within each county and were encouraged by MTC to emphasize housing growth in accessible areas with "affordable housing preservation and creation strategies" (San Francisco Bay Area Metropolitan Transportation Commission 2012c, 2). Examples of such policies included inclusionary housing requirements, city-sponsored land banking for affordable housing production, just cause eviction policies, fast-track permitting for affordable housing, policies or investments that preserve existing deed-restricted or "naturally" affordable housing, condo conversion ordinances that support stability and preserve affordable housing, and the like (San Francisco Bay Area Metropolitan Transportation Commission 2012c, 1). In an analysis of the first round of grant allocations, however, researchers found no real relationship between the affordable housing policies and grant allocations, suggesting the need for more carrots and sticks (Crispell et al. 2017). The second round of OBAG grants now includes a new preservation pilot revolving loan fund (the Naturally Occurring Affordable Housing Impact Fund) for acquisition and rehabilitation and a pilot challenge grant to incentivize the production of affordable housing.

In addition, as noted in chapter 9, antidisplacement analysis and policies are gradually being incorporated into regional modeling for Sustainable Communities Strategies in California, particularly Plan Bay Area in San Francisco. The 2017 Plan Bay Area also incorporated two performance targets, addressing displacement and affordable housing need.

Regional transportation agencies in California have also created policies to encourage joint development of affordable housing on agency-owned land. The Los Angeles County Metropolitan Transportation Authority (LA Metro), for instance, requires "35% of the total housing units in the Metro joint development portfolio [to be] affordable for residents earning 60% or less of the Area Median Income" (Los Angeles County Metropolitan Transportation Authority 2015). One mechanism for achieving this is a policy of land discounting whereby LA Metro may "discount joint development ground leases" by no more than 30 percent of fair market value.

State State tools extend across both the transportation and the housing realms, and, as described in chapter 1, in California they include resources from the cap-and-trade program as well. The LIHTC program accounts for the majority of affordable housing units created in the United States. The program, which gives states budget authority to issue tax credits for the acquisition, rehabilitation, or new construction of rental housing targeted at low-income households, has contributed to the production of over two million units since its inception. The credits are administered by each state's housing finance agency, which publishes guidelines for its funding priorities each year in the Qualified Allocation Plans (QAPs). Over half of all states provide additional points in their scoring criteria for projects located near transit (Zuk and Carlton 2015). The distance to and types of transit, however, are variously defined, as is the amount of extra points allocated to developments. Research on the impact of LIHTC scoring incentives for TOD found that states awarding extra points to developments near transit had more success in attracting affordable housing near rail transit compared to states that did not award extra points (Luckey 2012), confirming the conventional wisdom that QAP criteria communicate funding priorities to affordable housing developers (Wise and Scire 2009).

In 2008, as part of the Housing and Economic Recovery Act, Congress enabled state housing finance agencies to designate any development as eligible for a 30 percent basis boost, which some states applied to developments in transit station areas. As of 2011, four states (Missouri, Oregon, Texas, and Utah) had included basis boosts in their QAPs for locating near mass transit; however, the degree to which they actually awarded credits to developments near transit was not evaluated (Shelburne 2011).

Federal In addition to regulating state housing agencies, federal agencies have their own tools, primarily related to transit investment. At the federal level, the FTA's New Starts Guidelines also incentivize affordable TOD developments. The Federal Transit Administration's New Starts program has funded nearly every major fixed-guideway transit project built in the United States since the program's inception in the 1970s. The hundreds of transit projects that have been funded by the program have varied in cost from $25 million to several billion dollars. Proposed transit projects receive New Starts funding after proceeding through a multiple-criteria evaluation process that allows comparison to peer proposals. The modern formulation of the New Starts program funds both new transit facilities and extensions to existing fixed-guideway transit facilities. In 2013, the Federal Transportation Administration published policy guidance that incorporated affordable housing into its evaluation criteria. In its guidance, the FTA incorporated metrics that consider tools to increase and preserve the amount of affordable housing in project corridors (Federal Transit Administration 2013, 10). These include the presence of local policies on inclusionary zoning, density bonuses, and rent control and condominium conversion ordinances, as well as the number of existing deed-restricted units and local financing tools and strategies, including targeted property acquisition, local and state tax abatements, trust funds, and others. However, these land use measures represent only one-twelfth of a transit proposal's overall score. The impact of New Starts rules on project planning and outcomes may therefore be modest. In an analysis of New Starts applications for 2016, for instance, it was found that while the new criteria for affordable housing affected the ratings for land use and economic development, they did not have an impact on the overall rating deciding federal funding (Zimmerman and Lukacs 2015).

International Antidisplacement efforts around the world are focused primarily on the production and financing of social housing. As noted in chapter 2, the implementation of TOD is typically top-down, with significant public investment. In countries where financing is readily available, TOD may include social housing; examples include Ahmedabad, India; Bogota, Colombia; Copenhagen, Denmark; and the Netherlands (Knowles 2012; Suzuki, Cervero, and Iuchi 2013; Pojani and Stead 2014).

One tool with significant potential to fund social housing near transit is value (re)capture, which is common in Europe, Asia, and Latin America in addition to the United States (Özdemirli 2015). Value capture is a mechanism of public financing in which the public sector recovers from developers or homeowners within a special district part of the financial benefit generated by public investment and uses it to fund new public infrastructure or community improvements. Policies that facilitate value capture include developer impact fees and special assessment districts (with new taxes). In the United States, value capture most often appears in the form of tax increment finance (TIF) districts; however, this mechanism typically diverts property taxes rather than adding a new tax assessment. Countries that may use value capture to fund housing include the United Kingdom, Spain, Turkey, Ecuador, and Argentina, among others (Smolka 2013; Özdemirli 2015).

Effectiveness of Antidisplacement Policies

While there are a wide variety of antidisplacement strategies, we know little about how often these strategies are deployed and how effective they are. In other words, cities may have some strategies on their books that they rarely use. We also do not know much about the comparative effectiveness of different strategies. How many affordable housing units do they produce or preserve? At what levels of housing affordability? Do protections keep people in their homes? What has been the trajectory of a policy over a period of time? Lastly, what factors affect the effectiveness of antidisplacement policies? To better understand some of these issues, we turn to municipalities in the Bay Area.

Surveying the 109 counties and municipalities of the Bay Area, we found that inclusionary zoning is the most prevalent affordable housing production strategy, regulation of condominium conversions is the most common affordable housing preservation strategy, and assistance with foreclosures is the most common neighborhood stabilization strategy. Most municipalities have an accessory dwelling unit policy, since it is required by state law (although many remain out of compliance or create a policy that makes it nearly impossible to build). Other antidisplacement policies are followed only by a minority of cities and counties (table 10.2). Rent control, often considered by housing and community activists as an effective strategy against rising rents in gentrifying neighborhoods, is only implemented by 8 percent of Bay Area municipalities.

How effective are antidisplacement policies in the Bay Area? Our research in chapter 5 shows that affordable housing provision mitigates displacement. In addition, focusing only on affordable housing production strategies, and using housing production figures that cities must report as part of their Regional Housing Needs Allocation (RHNA) requirements, we documented how differently Bay Area cities performed based on whether they have certain production policies or not.[4] As shown in table 10.3, between 2007 and 2013, cities having these policies produced more units (on average and per capita) of housing for those with very low income (30 percent to 50 percent of average median income) than cities without the policy (with the exception of community land trusts). This seems to indicate that cities that have these policies are achieving what they are supposed to in regard to housing for those with very low income.[5] Finally, it appears that housing production for those of moderate (80 percent to 120 percent of average median income) and above-moderate income is dramatically higher in cities with each policy than in cities without them. One possibility is that cities that have the hottest real estate markets, where developing market-rate homes affordable to low-income people is difficult, are also

Table 10.2
Frequency of antidisplacement policies in the Bay Area

Type of strategy	Policy	# of Bay Area municipalities with policy	% of Bay Area municipalities with policy (total= 109)
Production strategies	Inclusionary zoning/housing	78	72
	Commercial linkage fee	27	25
	Housing development impact fee (or jobs-housing linkage fee)	24	22
	Local density bonus ordinance (above state requirements)	19	17
	Affordable housing trust fund	15	14
Preservation strategies	Condo conversion regulations	73	67
	Preservation of mobile homes (rent stabilization ordinance)	34	31
	Single-room-occupancy (SRO) preservation ordinance	28	26
	Community land trust	26	24
Neighborhood stabilization	Foreclosure assistance	45	41
	Rent review/mediation boards	14	13
	Rent control	9	8
	Just cause eviction	7	6

those most likely to implement affordable housing production policies. Further research is needed to investigate this and also to examine the extent to which the adopted policies are also being implemented.

Beyond this quantitative analysis, we also interviewed a number of planners, community advocates, and policymakers involved in affordable housing to better understand the variables and circumstances that may influence the adoption and effectiveness of antidisplacement policies. Based on the literature review, interviews, and empirical work in the case study neighborhoods (discussed in previous chapters), we reach the following observations.

Attention to Context Matters

The physical and social context of a neighborhood, as well as the level of accessibility that new transit systems provide, matters tremendously in terms of which antidisplacement policies work best. For example, production strategies in a neighborhood with little available land for development will

Table 10.3

Annual average housing unit construction per 10,000 people, Bay Area cities, by affordable housing production strategy (average of constructed units 2007–2013 / population in 2010 × 10,000)

		Housing development impact fee (or jobs-housing linkage fee)	Commercial linkage fee/ program	Affordable housing trust fund	Inclusionary zoning/ housing	Local density bonus ordinance (above state requirements)	Community land trusts
Very low income	Without policy	9.78	9.17	11.50	10.19	10.61	11.97
	With policy	19.17	19.90	15.21	12.42	18.80	11.39
Low income	Without policy	9.02	8.49	8.30	7.51	8.38	8.56
	With policy	5.43	7.48	7.64	8.51	7.42	7.29
Moderate income	Without policy	10.33	9.40	9.69	3.98	9.32	10.26
	With policy	7.99	11.10	11.16	11.95	12.66	8.48
Above moderate income	Without policy	54.80	47.04	61.17	27.98	55.52	56.00
	With policy	91.84	111.00	80.29	75.60	105.01	83.77

look different from those of a neighborhood that has more land available for development. While the latter may be able to take advantage of a housing density bonus ordinance, the former may be better off having an accessory dwelling unit ordinance. Of course, the effectiveness of a density bonus will depend on the market demand for building new housing—which itself depends on transit usage. The social context of the neighborhood also matters; for example, renter protection policies are only useful in places with many renters. Finally, attention to historical context is critical, as communities that have suffered injustices, particularly as a result of structural racism embedded in government policies, are likely to resist efforts to densify and develop their transit neighborhoods.

Attention to Detail Matters

Even when policymakers tailor policies to the sociophysical particularities of neighborhoods and cities, attention to the nitty-gritty details of policies and interrogating the laws "on the ground," as compared to "on the books," is critical. What is the right condominium policy? How much should a density bonus be for a particular neighborhood? How exactly should policymakers write a rent control ordinance to be most effective? How much new land value is expected to be generated by the new transit system, and what would an equitable recapture program look like given the local context? Similarly, avoiding loopholes can help policy effectiveness. Indeed, condominium conversion ordinances are often limited by loopholes that allow developers to escape their rental housing replacement requirements, while rent control laws can only slightly slow the rising rents in neighborhoods with a high turnover of renters (because of vacancy decontrol laws) or significant new development replacing existing housing.

Attention to Politics Matters

Political considerations are essential for understanding why some policies get implemented and others do not. The political culture and prevailing sentiment in a community (liberal or conservative, progrowth or antigrowth, etc.) is one factor that should be considered seriously, as it will affect the political viability of a proposed policy. Constituencies for equitable TOD may also be broader than just neighborhood residents; for example, by bringing in environmentalists. Still, gaining the support of housing justice advocates will require explicitly addressing and counteracting the ways in which

TOD may be replicating legacies of structural racism in the community. Carrots rather than sticks are often easier to implement, though this is not always true. For example, a density bonus in return for affordable housing units (a carrot policy) may be welcomed by a developer but opposed by Not in My Backyard (NIMBY) neighbors. In addition, while some believe that housing preservation policies (such as rent control) are easier to adopt because they require minimal public outlay of funds, others think it is easier to come out in favor of housing production strategies, since doing so does not challenge property rights and is not seen as antidevelopment. Either proposition may be true, depending on the community.

Community Mobilization and Engagement Matters

Behind the successful implementation of the policies discussed previously, there often lies an informed and organized resident base and a robust community-engaged decision-making process. Depending on the circumstances, community action can be instrumental in preventing gentrification and displacement or successfully lobbying for affordable housing production. A Vancouver study examining several neighborhoods that should have experienced gentrification but didn't, attributed the lack of gentrification to strong community resistance that held off the market (Ley and Dobson 2008). A recent study of Los Angeles documents different ways of engaging cultural identity to organize against transit-induced gentrification (Sandoval 2017). In chapter 6, we saw that strong community opposition to gentrification might be a reason why Boyle Heights has not witnessed the extensive gentrification of Highland Park, another Latino neighborhood in Los Angeles. Community mobilization can also be proactive. For example, in Chicago, the community development organization Bethel New Life launched a series of development projects around the Lake Pulaski transit stop in partnership with the Chicago Transit Authority, producing 50 homes for low- and moderate-income residents and planning 66 more in the future (PolicyLink 2008).

Narratives Matter

Both the smart growth proponents of TOD and their community opponents have failed to develop an inclusive narrative. To low-income communities of color, many of the arguments advanced for TOD, laid out in chapter 2, sound racist. Advocates have raised similar issues about "green gentrification" (Dooling 2009; Checker 2011). To smart growth advocates, the regular opposition of communities to urban density sounds narrow-minded. A more inclusive approach would acknowledge the history of housing and racial injustice in transit neighborhoods and push for mechanisms that ensure that this time communities will be able to stay. This narrative needs to be established proactively to avoid the pitfalls experienced in the case of the Mission neighborhood, where project-by-project protests have slowed the construction of new market-rate housing (even developments with affordable inclusionary units), resulting in tremendous market pressure on the few affordable units left in the neighborhood. The narrative might best embrace what john powell (2008) calls a "targeted universalism"; that acknowledges how different groups are situated relative to societal resources (powell 2008). This would mean evaluating the extent to which smart growth proposals in transit neighborhoods include and empower, rather than exclude and disenfranchise, local disadvantaged residents.

Partnerships Matter

The previous example and others discussed in this chapter indicate the importance of partnerships between different entities. Partnerships are particularly important for affordable housing production strategies, which typically benefit from the collaboration of nonprofits and community development corporations, local and state public sector agencies (planning departments, transit agencies, and housing departments), and housing developers.

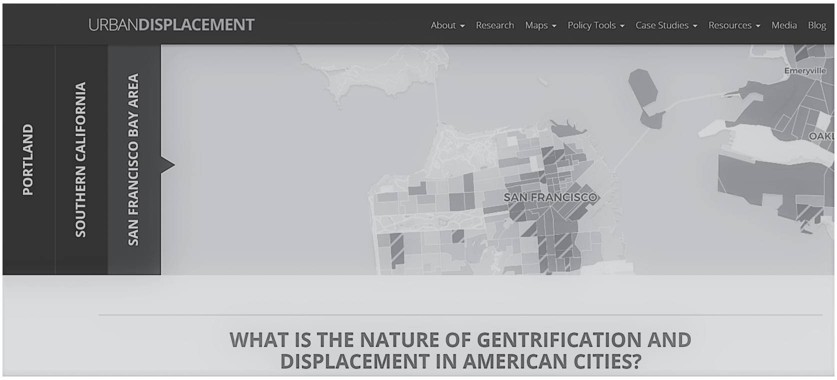
Spurring Change on the Ground: The Effectiveness of Early Warning Systems

Even when the effectiveness of antidisplacement policies is established, it may be politically challenging to enact them. One potential way to spur action on the ground is neighborhood early warning systems, or online maps that use indicators to assess patterns of neighborhood change. Initially pioneered in order to track and prevent neighborhood decline, the more recent early warning portals—almost a dozen across the United States—are measuring the risk of gentrification and displacement (Chapple and Zuk 2016). By identifying neighborhoods in early stages of change, they put the issue on the radar of local stakeholders. The systems often extend the analysis to the region, clarifying that housing markets operate in peripheral as well as core areas. Some also incorporate users into the development of the tools in an effort to make early warning systems even more accurate.

Policymakers, community residents, and other stakeholders are actively using these early warning systems in different ways: internally, to strategize how to bring attention to imminent problems and target resources; and externally, to generate new ideas, suggest solutions, or empower locals (Chapple and Zuk 2016). Even though the extent to which such analyses have actually caused policy shifts is unknown, they clearly have influenced the urban debate over housing and neighborhood change, becoming an established resource in the ongoing civic conversation about housing.

One prominent example is our own Urban Displacement Project (UDP), a combined effort between the University of California, Berkeley, and the University of California, Los Angeles, that focuses on our two case study regions (and is gradually adding others as well), with maps demonstrating neighborhood change and local antidisplacement policies (www.urbandisplacement.org, figure 10.2). Garnering considerable media attention (over 60 articles), UDP's website is used by community members, elected officials, and policymakers from the local to the national level. Cities in the two regions have used the website to enact new antidisplacement policies or development controls. For example, the city of San Francisco's Interim Mission Controls require developers of new projects in the Mission District to write a report on their project's displacement potential, drawing from the early warning system. At the same time, advocates for affordable housing have used the maps to target sites for subsidized housing development. At the regional level, the Metropolitan Transportation Commission has incorporated more stringent antidisplacement targets in its next long-range plan (as noted earlier), and at the federal level, HUD granted San Francisco the right to "neighborhood preference" or "antidisplacement preference," setting aside affordable units for residents of neighborhoods experiencing rapid gentrification, as shown by the UDP maps (*San Francisco Chronicle* 2016). These impacts suggest the potential of online tools to, at a minimum, raise awareness of neighborhood change processes, and, at best, transform policy.

In fact, we look forward to an era when big data and predictive analytics can more effectively track neighborhood change and predict future trajectories in time to enact policies and programs that will lead to cities that are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WHAT IS THE NATURE OF GENTRIFICATION AND DISPLACEMENT IN AMERICAN CITIES?

Figure 10.2
The Urban Displacement Project.
Source: Zuk and Chapple (2015b).

more inclusive. Big data are data of unprecedented volume, often real-time, and sometimes crowdsourced from users. By using algorithms rather than traditional inferential statistics for analysis, analytics shed new light on the scale, time, and interaction effects of interventions, such as TOD and transit investments. Within our lifetimes, we will have access to real-time data on mobility (whether via cell phones, social media, or urban sensors) that will help us understand, for instance, which areas of the city sustain diversity and social interaction most effectively—as well as who is displaced from the city. Real-time utility data should help us better understand housing occupancy. Credit card transaction data will clarify whether and where retail exclusion is taking place. The analysis in this book will soon seem quaint and archaic—and that makes us hopeful.

Conclusion

This chapter has documented a wide variety of interventions to mitigate displacement by producing and preserving affordable housing and stabilizing neighborhoods for residents and businesses, most of which are likely relevant to regions around the world. Several policies supporting the production of housing, such as impact fees, inclusionary zoning, and density bonuses, seem to be effective for households with very low or moderate incomes. The effectiveness of other policies remains unknown. Though more studies are clearly needed, our research suggests that future efforts will need to carefully consider the physical, social, and political contexts of neighborhoods. As suggested by chapter 4, traditional quantitative evaluations and econometric approaches will likely fall short without in-depth qualitative case studies as well—and even then a policy's appropriateness may vary widely from neighborhood to neighborhood.

This chapter focused on the production of affordable housing, but the production of market-rate housing also plays a significant role in reducing displacement (Zuk and Chapple 2016). Just as much as development disrupts communities, underbuilding harms our cities and regions by failing to provide housing needed for growth. Both our quantitative analyses and our case studies throughout the book show how transit investment results in exclusionary displacement by raising land and housing costs so much that low- and moderate-income households can no longer afford to move in. Ironically, this is not just a failure of decentralized, market-driven urbanism. Many high-cost regions throughout the world are failing to build enough below-market-rate or even moderate-income housing to accommodate this demand. There is an active debate about the causes of underbuilding, with blame falling alternatively on regulations (Hsieh and Moretti 2015), NIMBYs (Monkkonen 2016), or even neoliberalism itself (Bronstein 2017). We await more innovation from both markets and states around the world to meet future growth pressures on our cities.

Less prominent in the discussion, but equally or more important, is the role of growing income inequality (Chapple 2017). As construction costs rise, particularly for high-rise buildings, incomes are simply not keeping pace. Addressing income inequality calls for strategies to increase incomes, such as wage subsidies and investment in human capital, along with strategies to build assets and wealth, such as individual development accounts and homeowner assistance programs, among others.

In chapter 1, we asked whether we have learned our lessons from the urban renewal era, when public-led redevelopment processes uprooted hundreds of thousands of families, many belonging to disadvantaged communities of color. The dearth of antidisplacement policies incorporated into climate change mitigation programs suggests that we have not. Across the world, and in much of the United States, governments are enacting smarter growth policies in order to accommodate new growth while reducing greenhouse gas emissions, but in our haste, we neglect to plan for the well-being of existing residents, many of whom are already experiencing injustice in different forms. Rising income inequality around the world will only exacerbate this crisis in the future.

We have argued that who benefits and who loses from more compact development around transit depends greatly on context. Disadvantaged low-income, often minority, communities in the urban core are more likely to be the losers in the short term, if protections are not already in place. In the big picture, then, is more equitable—and affordable—development compatible with smart growth goals in the core of our regions? The challenges of reconciling the three Es—environment, economy, and equity—are well established, with equity often the loser when trade-offs occur (Campbell 1996). This chapter presented some policies that make it more possible to integrate equity into smart growth (Chapple 2015), but we should also seriously consider separating our affordable housing goals from smart growth goals. In this regard, the United States has much to learn from countries with a strong national safety net, such as those in the European Union. If action at the federal level can secure the right to affordable housing—the once promised (by the Housing Act of 1949) but never delivered "decent home and a suitable living environment for every American family"—localities will have a better framework from within which to promote smart growth without displacement.

11 Conclusion: Transit-Oriented Displacement or Community Dividends?

In the late 1970s, the world began to embrace rail transit again after a long hiatus caused by the dominance of the automobile. As cities around the world began to build new heavy and light rail systems and extend existing ones, few gave any thought to their potential negative impacts on existing communities. It quickly became apparent, however, that the new transit accessibility was creating winners and losers; it was increasing land values and bringing new, higher-income residents but also raising rents and, in some cases, displacing existing residents.

This book has interrogated the relationship between transit investment and gentrification and displacement, focusing mostly on the United States and California but also drawing examples from other contexts. Even if the United States and California in particular present a unique policy context, we believe that the relationship of transit investment with gentrification and displacement is quite universal. Around the world, urban centers have higher land costs. Transit improvements make neighborhoods more accessible and desirable, and these improvements are largely capitalized into property values. Local governments everywhere experience challenges of fragmentation of responsibilities between different governments as well as fiscal stress. Even in regions that are not experiencing rapid growth, these growth—and displacement—dynamics occur in some urban neighborhoods. This suggests that, at a minimum, we can generalize the need to look carefully at the impacts of transit investment on existing communities.

Using the case of California, we found some truth to the narrative of transit-oriented displacement, but the realities on the ground of who wins and who loses are complex, and there is no simple causal relationship between transit and displacement, even though we do have a good idea of who stands to win and who stands to lose. On the one hand, it makes little sense to oppose the development of new transit on the grounds of displacement, as transit may offer community dividends in the form of increased accessibility, and displacement will only occur at a small scale and slow pace (and in some places not at all). On the other hand, it is critical to put mechanisms and policies in place to ensure that existing residents are protected from whatever displacement does take place. Just as cities and regions have replicated transit systems throughout the world, we should also consider policy transfer for antidisplacement policies. But while antidisplacement policies and programs may be applied to different global contexts, they should also be targeted carefully to ensure that communities that have experienced long histories of discrimination, violence, and displacement are well positioned to benefit from new transit investment.

In this book, we took a slow journey through the global literature and conducted empirical research on California to illustrate the complexity of gentrification and displacement processes near transit. In chapters 2 and 3, we showed how the market-driven urbanism of the United States has undermined the utopian vision for transit neighborhoods, while globally, deep power dynamics—the forces of capital accumulation working with the state—have accelerated processes of neighborhood change, with little attention paid to transit-induced displacement. Chapter 4 taught us that even though characterizing neighborhood change is complex, it is possible to identify patterns through careful detective work across secondary data, field observations, and stakeholder interviews, and this triangulation may in fact be the most effective way to reveal the structural inequities at work. In chapters 5, 6, and 7, we showed how qualitative methods confirm but also extend quantitative findings. Regression analysis of residential and commercial gentrification, as well as of various forms of displacement, identified some consistent patterns, such as how the prevalence of rental housing predicts gentrification and how the impact of subsidized housing mitigates displacement. But findings on whether transit proximity and communities of color predict gentrification and displacement were mixed, suggesting that local context, community activism, and the deep history of a neighborhood matter. Our case studies of residential and commercial gentrification and displacement revealed that neighborhood change processes unfold over a long period of time and in a series of stages, and displacement may at times precede gentrification rather than follow it. Processes are interrelated across the region, transit is but one of many factors shaping change, and transit-induced displacement often occurs without development.

Even though the evidence to date is still inadequate, chapter 8 suggests that the housing instability of low-income communities of color makes them vulnerable to the dynamics unleashed by transit investment, and if forced to move, they tend to end up in poorer-quality neighborhoods and farther away from transit, even if not far away from their original home. Moving to action, chapter 9 recommends ways for regional transportation models to acknowledge, represent, and predict residential displacement. Chapter 10 describes and evaluates mechanisms for mitigating displacement by producing and preserving affordable housing and stabilizing neighborhoods for residents and businesses. We conclude that fostering more development around transit is critical to accommodate new growth while reducing greenhouse gas emissions, but that does not release us from our obligation to protect disadvantaged, low-income, often minority communities from injustice. Indeed, embracing that obligation should only make smart growth smarter.

During the time that this manuscript was under review, a new debate began to rage in California that highlighted the issues discussed in this book: the escalating crisis of housing affordability in the state, the fear that new development will generate gentrification and result in displacement of the households that are most vulnerable, and the acceleration of these dynamics when building more TODs around transit stops.

More specifically, in January 2018, State Senator Scott Wiener (a Democrat from San Francisco) submitted Senate Bill 827 for consideration by the California Senate. If passed, the bill would have required local governments to grant a “transit-rich housing bonus” to developers of new housing built within a half-mile radius of a major transit stop or a quarter-mile radius of a stop on a high-quality bus corridor. It would exempt developers of such projects from various local zoning requirements, “including maximum controls on residential density, maximum controls on floor area ratio that are lower than a specified amount, minimum automobile parking requirements except as provided, maximum height limitations that are less than a specified amount unless those increases would have a specific, adverse impact upon public health and safety, and zoning or design controls that have the effect of limiting additions onto existing structures or lots that comply with those maximum floor area ratios and height limitations" (California Legislature 2018).

Senator Wiener argued that this bill would simultaneously address two challenging problems—lack of housing and climate change—by overriding the local control that stymies progress, but the tension around SB 827 appeared almost as soon as the bill was proposed (Dillon 2018). In the public discussion that ensued, the pros and the cons of the proposed legislation were passionately, and at times angrily, debated, and some strange "bedfellows" emerged. Some of the reactions were predictable, others not so much. Local governments opposed the proposed bill, viewing it as an immediate threat to local power and control, and as state meddling in local matters. Predictably, NIMBY neighborhood groups were appalled that the bill would allow much higher densities near their neighborhoods. Environmentalists were torn; not all environmental groups agreed with the bill, and the all-powerful Sierra Club opposed it, even starting a petition against it, which described the bill as a "heavy-handed approach" that "would ultimately lead to less transit and more pollution" (Sierra Club 2018). Ethnic community-based groups and activists for low-income communities of color also came out strongly against the bill, which they saw as one more opportunity for developers to build new housing that would displace their communities. In contrast, YIMBY (Yes, in My Backyard) groups, mostly white housing advocates, came out strongly in favor of increased densities of infill housing around transit stops. At the same time, about a dozen fair-housing advocates came out strongly in favor of the bill. In a letter to the California Legislature, they referred to the discriminatory housing policies that for decades had led to racially segregated residential patterns in California and the United States, and they characterized SB 827 as "one of the most innovative and important efforts in the nation to attack restrictive and exclusionary local land use policies that maintain and exacerbate these segregative patterns."[1]

Politics has been described as sausage making, and Senator Wiener kept amending his bill in an effort to minimize the opposition to it and create an acceptable sausage.[2] Despite these efforts, the bill was killed on the California Senate floor. What went wrong? It appears that most of the recommendations we discussed in chapter 10 were not followed. History and context have in the past shaped change around transit neighborhoods in different ways. Nevertheless, not much attention was given to either history or context. Rather, the bill appeared as one-size-fits-all legislation that would be applicable to all transit neighborhoods around the state instead of classifying neighborhoods according to their sociocultural and built environment characteristics and setting density bonuses accordingly. Similarly, not much attention was given to an important detail: What percentage of affordable units could developers reliably build, and how would this be different for different transit neighborhoods? Finally, the narrative fell short by failing to acknowledge the potential for indirect displacement in communities that have long suffered from structural inequities. While the efforts to revise the bill indicate that some attention was given to politics, in the end most of the low-income minority communities felt that they were excluded from the discussion. These communities have witnessed displacement in the past as a result of discriminatory policies, urban renewal, and neoliberal politics that favor private markets. They have been watching with increasing apprehension the new developments that often accompany the opening of stations, and have witnessed cases of households and businesses that were forced to exit their neighborhoods. The engagement, mobilization, and strong advocacy against the bill on the part of these groups helped its demise.

As we explain the reasons behind the failure of SB 827, we are also aware that no alternatives have been proposed. Housing prices are rising in California and many other states, burdening low-income residents and threatening them with displacement. The majority of transit neighborhoods, not only in California but also in the United States as a whole, have actually failed to attract significant new development. Because of our market-driven urbanism—perhaps enabled by the naiveté of early smart growth scholars and advocates—we have failed to plan strategically and adopt significant incentives as other countries have. Should the failure to densify continue, displacement may well accelerate. In other words, even if TOD leads to displacement in some contexts, lack of TOD may lead to even more displacement. Future research will need to address systematically this counterfactual of what happens without new construction. Certainly our findings suggest it is problematic—but ironically, there may not yet be enough new development around transit in California to analyze this fully.

Can TOD provide a solution to this crisis, then? We view TOD as an opportunity for the concentration of higher-density new housing, but only if bonuses for higher densities around transit stations guarantee no net loss of affordable units and no displacement—direct, indirect, or exclusionary—of low-income tenants. Perhaps the most appropriate neighborhoods for TOD, then, are the more affluent neighborhoods around the world, which are only becoming more segregated (Organisation for Economic Cooperation and Development 2018). At the same time, municipalities should require affordability from new TOD by tying different tiers of density increases to the building of prespecified percentages of affordable housing units. Lastly, but very importantly, local communities, especially those that historically have been victimized by unfair housing policies, should be part of any discussion about increasing densities and incentivizing new development in their neighborhoods. Only then will we make TOD part of the solution, not the problem, offer community dividends to all, and dismiss the fear of transit-oriented displacement.

TOD is not the last word, however, since transit itself is undergoing a transformation. Technological shifts are leading to the rise of low- and zero-emission vehicles, raising questions about whether there is even a need to reduce greenhouse gas emissions through significant changes in land use and transportation (a.k.a. smart growth). Moreover, as autonomous vehicles become more common, we may see a shift in investment in the coming years. Speculation about driverless electric cars has ranged from a concern with how they might increase inequality to assertions that they may be more equitable than current transit systems (Litman 2014). California remains the global laboratory for understanding the implications of these choices. We cannot know the future, but the past has taught us that we will need to be proactive to protect existing communities from rapid, often unjust, change in the technological, social, and economic landscapes.

Appendix A

Regression Models: Gentrification, Exclusion, and Displacement

Table A.1

Logit regressions of gentrification, 1990–2000 and 2000–2013, San Francisco Bay Area gentrification-eligible tracts

	1990–2000	2000–2013
Intercept	–6.690***	–4.861***
Median household income (/10,000)	0.692**	0.332
Income squared	–0.032	–0.011
% Non-Hispanic black	0.012	2.030**
% Asian	–0.890	–0.362
% Hispanic	–0.711	–0.242
% Renters	2.373***	0.598
Downtown TOD	1.906***	0.782**
Non-downtown TOD	0.841**	–0.269
TOD 1990s	0.823**	–0.465
TOD 2000–2013		0.354
% Housing units built before 1950	0.438	1.783***
Employment density (# jobs/square mile)	0.000	0.000
Likelihood ratio	219.9***	229.9***
n	640	626

Sources: 1990 and 2000 decennial censuses, 2009–2013 five-year ACS.

Notes: Downtown refers to the entirety of Oakland, San Francisco, and San Jose. TOD refers to transit neighborhoods. Calculations by M. Zuk.

*$p < .10$, **$p < .05$, ***$p < .01$.

Table A.2

Logit regressions of gentrification, 1990–2000 and 2000–2013, Los Angeles gentrification-eligible tracts

	1990–2000	2000–2013
Intercept	–3.281***	2.690***
Median household income (/10,000)	–0.213**	–0.816***
Income squared	0.021*	0.085***
% Non-Hispanic black	0.007***	–0.076***
% Asian	0.027***	–0.030***
% Hispanic	0.013***	–0.054***
% Renters	–0.006***	0.003
Downtown TOD	0.574***	0.484***
TOD 1990s	0.133***	–0.038
TOD 2000–2013	—	–0.296***
TOD recent	—	1.030***
% Housing units built before 1950	0.018***	0.035***
Employment density (# jobs / square mile)	0.000***	0.001***
Likelihood ratio	493.110***	2157.547***
n	937	929

Sources: 1990 and 2000 decennial censuses, 2009–2013 five-year ACS, NETS (1990, 2000).

Notes: TOD refers to transit neighborhoods. Calculations by C. Pech and P. Ong.
$^{*}p < .10$, $^{**}p < .05$, $^{***}p < .01$.

Table A.3

Modeling share of movers in by subgroups, multivariate regressions for the Bay Area, 2009–2013

	In poverty	High-income (>120% county median income)	Less than high school	Bachelor's degree or higher	Non-Hispanic white
Constant	0.412***	–0.055***	0.496***	0.078*	0.898***
Median household income	–0.053***	0.013***	–0.051***	0.055***	–0.001
Income squared	0.002***	0.000***	0.001***	–0.001***	0.000
% Non-Hispanic black	0.171***	–0.013*	0.198***	–0.345***	–0.794***
% Asian	0.016	–0.014***	0.132***	–0.043*	–0.933***
% Hispanic	0.077***	–0.048***	0.684***	–0.671***	–0.959***
Downtown TOD	0.019**	0.004*	–0.024**	0.045***	0.048***
Non-downtown TOD	–0.014	0.008***	–0.015**	0.048***	0.002
% Renters	0.020	0.091***	–0.258***	0.410***	0.066***
Adj. *R*-squared	0.3275	0.392	0.5685	0.579	0.717
n	1,575	1,578	1,575	1,575	1,576

Source: 2009–2013 five-year ACS.

Notes: TOD refers to transit neighborhoods. Calculations by M. Zuk.

$^{*}p<.10$, $^{**}p<.05$, $^{***}p<.01$.

Table A.4

Modeling share of movers in by subgroups, multivariate regressions for Los Angeles County, 2009–2013

	Low income (<$10K)	High income ($65K+)	Less than high school	Bachelor's degree or higher	Non-Hispanic white
Constant	19.233***	2.561	5.992*	0.744	51.633***
Median household income	–1.642***	0.633**	–0.677	1.472***	0.002
Income squared	0.064***	0.011	0.024	–0.052***	0.296***
% Non-Hispanic black	0.020	–0.041***	0.078***	–0.114***	–0.560***
% Asian	–0.033**	–0.048***	–0.016	0.007	–0.551***
% Hispanic	0.005	–0.076***	0.130***	–0.101***	–0.546***
Downtown TOD	–0.316	4.225*	2.970	2.700	4.821
Non-downtown TOD	–1.599**	1.315***	–1.175	2.798***	1.440*
% Renters	–0.024*	0.030***	–0.060***	0.105***	0.066***
Adj. *R*-squared	0.1206	0.592	0.570	0.677	0.764
n	2,307	2,307	2,307	2,307	2,307

Source: 2009–2013 five-year ACS.

Notes: TOD refers to transit neighborhoods. Calculations by C. Pech and P. Ong.

$^{*}p<.10$, $^{**}p<.05$, $^{***}p<.01$.

Table A.5

Changes in affordable housing, linear regressions

	Δ Affordable rental units (2000–2013)	Δ Section 8 (2000–2013)	Δ Federally subsidized (2000–2014)
Intercept	–142.541***	34.043***	96.232***
Median household income, 2000	14.112***	–3.880***	–14.105***
Income squared, 2000	–0.365***	0.086*	0.472***
% Non-Hispanic black, 2000	92.624***	14.739*	–18.857
% Asian, 2000	40.256***	36.249***	3.703
% Hispanic, 2000	95.357***	16.762**	43.516***
Downtown TOD, 2000	–2.978	–0.964	21.084***
Non-downtown TOD, 2000	–6.507	–2.744	–23.961***
% Renters, 2000	–119.277***	–0.453	11.843
Adj. *R*-squared	0.189	0.184	0.082
n	1,579	1,579	1,579

Sources: 2000 decennial census, 2006–2010 and 2009–2013 five-year ACS, 2000 and 2013 HUD Picture of Subsidized Households, CHPC.

Notes: Downtown refers to the entirety of Oakland, San Francisco, and San Jose. TOD refers to transit neighborhoods. Calculations by M. Zuk.

*$p<.10$, **$p<.05$, ***$p<.01$.

Table A.6

Changes in affordable housing, linear regressions (Los Angeles)

	Δ Affordable rental units (2000–2013)	Δ Section 8 (2000–2013)	Δ LIHTC (2000–2013)
Intercept	–2.353**	3.284***	4.071***
Median household income (/10,000)	0.634***	–0.494***	–0.664***
Income squared	–0.028***	0.017***	0.023***
% Non-Hispanic black	0.027***	0.013***	0.003
% Hispanic	0.021***	–0.008***	–0.002
% Asian	0.008	–0.005*	0.001
Downtown TOD	–18.966***	–0.678	12.945***
Non-downtown TOD	–2.551***	–0.365***	0.392*
Adj. *R*-squared	0.091	0.112	0.147
n	2,316	2,316	2,316

Sources: 2000 decennial census, 2006–2010 and 2009–2013 five-year ACS, 2000 and 2013 HUD Picture of Subsidized Households, CTCAC, Housing Authority of the City of Los Angeles.

Notes: Ellis Act eviction data are only for the city of Los Angeles; all other data are for Los Angeles County. TOD refers to transit neighborhoods. Calculations by C. Pech and P. Ong.

*$p<.10$, **$p<.05$, ***$p<.01$.

Table A.7
Evictions and condominium conversions, linear regressions, San Francisco

	Fault eviction rate (2010–2015)	No fault eviction rate (2010–2015)	All eviction rate (2010–2015)	Condo conversion rate (2010–2015)
Intercept	0.018***	0.002	0.021**	0.029***
Median household income, 2010	0.000	0.001	0.001	0.002***
Income squared, 2010	0.000	0.000	0.000	0.000**
% Non-Hispanic black, 2010	–0.006	–0.003	–0.009	–0.042***
% Asian, 2010	–0.014***	–0.002	–0.016*	–0.058***
% Hispanic, 2010	0.027***	0.018***	0.045***	–0.009
TOD	0.004**	0.001	0.005*	–0.001
Adj. *R*-squared	0.071	0.001	0.043	0.287
n	576	576	576	578

Sources: 2019 decennial census, San Francisco Rent Board, San Francisco Department of Public Works.

Notes: This analysis differs from previous analyses in that transit (TOD) neighborhoods are defined as census block groups rather than census tracts, and we look at the quarter-mile buffer around the rail station rather than the half-mile buffer. Calculations by M. Zuk.

*$p<.10$, **$p<.05$, ***$p<.01$.

Table A.8
Condo conversions and Ellis Act evictions, linear regressions (Los Angeles)

	Condo conversions (2003–2013)	Ellis Act evictions (2007–2014)
Intercept	1.556***	1.137***
Median household income (/10,000)	–0.055	–0.100***
Income squared	–0.001	0.002**
% Non-Hispanic black	–0.010***	–0.008***
% Hispanic	–0.015***	–0.008***
% Asian	–0.008**	–0.003
Downtown TOD	4.486***	–0.290*
Nondowntown TOD	0.341***	0.050
Adj. *R*-squared	0.052	0.070
n	2,317	993

Sources: 2000 decennial census, 2006–2010 and 2009–2013 five-year ACS, 2000 and 2013 HUD Picture of Subsidized Households, CTCAC, Housing Authority of the City of Los Angeles.

Notes: Ellis Act eviction data are only for the city of Los Angeles; all other data are for Los Angeles County. TOD refers to transit neighborhoods. Calculations by C. Pech and P. Ong.

*$p<.10$, **$p<.05$, ***$p<.01$.

Table A.9
Change in low-income households, linear regression

	Change in low-income households (2000–2013)
Intercept	–33.829
Median household income (/10,000), 2000	9.850*
Income squared, 2000	–0.326*
% Non-Hispanic black, 2000	14.670
% Hispanic, 2000	234.995***
% Asian, 2000	108.805***
Downtown TOD, 2000	17.886
Non-downtown TOD, 2000	–44.087***
% Renters, 2000	–74.772***
Adj. *R*-squared	0.065
n	1,569

Sources: 2000 decennial census, 2009–2013 five-year ACS.
Notes: TOD refers to transit neighborhoods. Calculations by M. Zuk.
*$p < .10$, **$p < .05$, ***$p < .01$.

Appendix B
Regression Models: Commercial Gentrification

Table B.1
Variables included in commercial gentrification regressions

Variable name	Description
Transit-proximate	Dummy variable indicating the presence of railway transit
Non-Hispanic black	Percentage of population identifying as non-Hispanic black in 2000
Hispanic	Percentage of population identifying as Hispanic in 2000
Foreign-born	Percentage of population that is foreign-born in 2000
College-educated	Percentage of population 25 and older with a college education or greater in 2000
Median household income	Median household income in 2000
Population renting	Percentage of renters in 2000
Units built before 1950	Percentage of housing units built before 1950 in 2000
Residentially gentrified or adjacent to residentially gentrified	Dummy variable indicating tract that residentially gentrified from 1990 to 2000 or is adjacent to a tract that residentially gentrified from 1990 to 2000
Employee density	Employees per square mile in 2000
Population density	Population per square mile in 2000
Road network density*	Total miles of roadway per square mile in 2014
Street intersection density**	Number of intersections per square mile in 2014

*Obtained from the US Environmental Protection Agency's Smart Location Database.

**Auto-oriented intersections eliminated. Obtained from the US Environmental Protection Agency's Smart Location Database.

Table B.2
Descriptive statistics for Bay Area commercial gentrification probit regression

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
Commercially gentrified 2000–2013 (1/0)	628	0.209	0.407	0	1
Transit-proximate (1/0)	628	0.234	0.424	0	1
% Non-Hispanic black (2000)	628	8	12	0	73
% Hispanic (2000)	628	19	17	1	85
% Foreign-born (2000)	628	30	15	0	82
% With college degree (2000)	628	39	20	4	84
% Units built before 1950 (2000)	628	33	28	0	90
% Population renting (2000)	628	55	24	4	100
Residentially gentrified or adjacent to residentially gentrified 1990–2000 (1/0)	636	0.302	0.459	0	1
Employment density (2000)*	629	60	148	0	2,585
Population density (2000)**	628	15	17	0	168
Street intersection density (2014)*	636	1	1	0	8

*In hundreds per square mile. **In thousands per square mile.

Table B.3
Average marginal effects, Bay Area commercial gentrification probit regression

Dependent variable	Commercial gentrification 2000–2013 (1/0)			
Independent variables	*dy*/*dx*	$P>\lvert z\rvert$	[95% Confidence interval]	
Built environment				
% Units built before 1950	0.001	0.263	–0.001	0.002
Employment density*	–0.0002	0.168	–0.0004	0.0001
Population density**	0.002	0.042	0.0001	0.005
Street intersection density*	0.053	0.011	0.012	0.093
Socioeconomic				
% With college degree	0.003	0.046	0.0001	0.005
% Renters	–0.003	0.002	–0.004	–0.001
% Non-Hispanic blacks	0.006	0.000	0.004	0.009
% Hispanic	0.0004	0.716	–0.002	0.003
% Foreign-born	0.009	0.000	0.007	0.011
Other				
Transit-proximate (1/0)	–0.006	0.882	–0.079	0.068
Residentially gentrified or adjacent to residentially gentrified 1990–2000 (1/0)	–0.021	0.548	–0.088	0.046
N	628			
Pseudo *R*-squared	0.161			
Correctly classified	79.46%			

*In hundreds per square mile. **In thousands per square mile.

Table B.4

Descriptive statistics for Los Angeles commercial gentrification probit regression

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
Commercially gentrified 2000–2013 (1/0)	1,082	0.210	0.407	0	1
Transit-proximate (1/0)	1,082	0.095	0.294	0	1
% Non-Hispanic black (2000)	1,078	9	14	0	94
% Hispanic (2000)	1,078	45	29	3	98
% Foreign-born (2000)	1,078	40	17	1	79
Median household income (2000)	1,082	$54,683	$24,565	$0	$219,824
% Units built before 1950 (2000)	1,078	27	18	0	90
% Renting (2000)	1,078	64	24	5	100
Residentially gentrified or adjacent to residentially gentrified 1990–2000 (1/0)	1,082	0.172	0.377	0	1
Employment density (2000)*	1,068	56	77	0	822
Population density (2000)**	1,081	16	14	0	125
Street intersection density (2014)*	1,082	1	1	0	7

*In hundreds per square mile. **In thousands per square mile.

Table B.5

Average marginal effects, Los Angeles commercial gentrification probit regression

Dependent variable	Commercial gentrification 2000–2013 (1/0)			
Independent variables	*dy*/*dx*	*P*>|*z*|	[95% Confidence interval]	
Built environment				
% Units built before 1950 (2000)	0.002	0.013	0.0004	0.003
Employment density (2000)**	–0.0004	0.037	–0.001	–0.00003
Population density (2000)***	0.003	0.009	0.001	0.005
Street intersection density (2014)**	–0.058	0.033	–0.112	–0.005
Socioeconomic				
Median household income (2000)*	–0.004	0.013	–0.007	–0.001
% Population renting (2000)	–0.004	0.000	–0.006	–0.002
% Population non-Hispanic black (2000)	0.004	0.000	0.002	0.006
% Population Hispanic (2000)	0.0009	0.087	–0.0001	0.002
% Population foreign-born (2000)	0.008	0.000	0.005	0.010
Other				
Transit-proximate (1/0)	0.016	0.671	–0.059	0.091
Residentially gentrified or adjacent to residentially gentrified 1990–2000 (1/0)	0.058	0.040	0.003	0.113
N	1,066			
Pseudo *R*-squared	0.218			
Correctly classified	80.77%			

*In thousands of dollars. **In hundreds per square mile. ***In thousands per square mile.

Notes

Chapter 1

1. Cap and trade is a program that was enacted in 2013 by the California state government through the California Air Resources Board (CARB). Companies have to pay a fine if they exceed a cap on greenhouse gas emissions set by the state. Polluting companies have to hold permits to discharge specific quantities of pollutants per year. CARB sells a number of permits to companies, and polluting companies can increase their emissions if they buy permits from other companies willing to sell them.

2. A March 2018 article in *Financial Advisor Magazine* ranked San Jose, San Francisco, San Diego, and Los Angeles as the four most expensive US metro areas for homebuyers (Riley 2018). San Francisco also ranks among the world's most unaffordable cities for housing according to the Bloomberg Global City Housing Affordability Index (Tartar and Lu 2017). San Francisco and Los Angeles are both among the top 10 metro areas in the United States in terms of absolute numbers of renters with a severe rent cost burden (paying more than 50 percent of their income for rent) (Harvard Joint Center for Housing Studies 2017).

Chapter 2

1. The first electrified streetcar system was installed by Frank Sprague in Richmond, Virginia, in 1888.

2. More recently, scholars have described how international policy transfer has occurred around TOD and subsequently bus rapid transit (Montero 2017; Pojani and Stead 2014; Wood 2014).

3. Pioneering figures in the New Urbanist movement included Peter Calthorpe, Michael Corbett, Andrés Duany, Douglas Kelbaugh, Elizabeth Moule, Elizabeth Plater-Zyberk, Stefanos Polyzoides, and Daniel Solomon.

4. In Los Angeles, the Bus Riders Union sued the Los Angeles County Metropolitan Transportation Authority for racism as a result of the shift of funds from the bus system to suburban white commuters.

5. In the 1990s, a sixth finger was added when a new transit corridor connected Ørestad New Town to central Copenhagen (Knowles 2012).

6. Public investment in transit infrastructure typically increases the value of properties adjacent to transit. Value capture is a form of public financing by which the government recovers through taxation some or all of this value accrued to developers or owners of these properties.

7. A General Plan provides a broad guideline and vision for a city's foreseeable future and sets goals and policies for its physical development. It has to be approved and adopted by the city council. General Plans have mandated elements such as Land Use, Housing, Circulation, Conservation, Open Space, and Public Safety.

8. A Specific Plan may encompass a specific area within a city and may be developed in response to a specific issue or to address a specific policy within the General Plan. A Specific Plan enables the implementation of selected objectives of the General Plan within a short time frame (Governor's Office of Planning and Research 2001).

9. Cities establish minimum parking requirements for different land uses. A reduction in parking minimums acknowledges that properties in transit districts may need fewer parking spaces.

10. An alternative to reducing minimum parking requirements is to establish a maximum ratio of parking spaces for different types of development, enabling developers to provide less parking than the maximum allowed.

11. This has been particularly true in California since the termination of the state's redevelopment agencies on February 1, 2012. Such agencies had the ability to extract significant amounts of tax-increment financing from designated redevelopment areas, which was then used to fuel further redevelopment activity. With the demise of redevelopment agencies, TOD projects leveraging federal funds and public-private partnership opportunities became the only "game in town" for a number of California cities.

12. An overlay zone is a regulatory tool that designates a special zoning district created over an existing base zone. An overlay zone represents a common way of controlling land uses, densities, and site designs of TODs; it specifies desired land uses such as mixed-use housing, neighborhood retail, and others (Transit Cooperative Research Program 2004).

13. Public-private partnerships are agreements between one or more public agencies and private sector companies for the financing, development, and/or operation of projects.

14. The floor area ratio (FAR) of a parcel is determined by dividing the total allowable floor area (gross floor area) on which one can build by the area of the parcel.

15. Environmental impact reports (EIRs) are studies that identify significant environmental effects of proposed projects, ways to mitigate them, and reasonable alternatives to the project.

16. While these authors do not state it, we are assuming that the price of parking was "bundled" with the price of housing, as is usually the case in the United States for multifamily units.

Chapter 3

1. According to Wyly and Hammel (2001), we have seen three waves of gentrification, at least in the United States. The first phase was spurred by 1960s-era urban renewal and public spending; a second wave started in the late 1970s, led by developers and owner-occupiers indirectly supported by the state and a globalized real estate industry; and a third wave occurred in the 1990s, consisting of large developers working in concert with an entrepreneurial state (e.g., to transform social housing into mixed-income developments).

2. However, see Vigdor (2002) for an analysis where low educational attainment actually predicts housing stability.

Chapter 4

1. We used the Low-Income Housing Tax Credit (LIHTC) database to calculate the change in low-income units.

2. We drew from Dataquick assessor data and Zillow real estate databases to track changes in housing prices and rents.

3. We conducted semistructured interviews in the two neighborhoods (Concord and Chinatown), with five to seven representatives from different public agencies (Department of City Planning, neighborhood councils, and city council offices) and with CBOs active in the two neighborhoods, as well as some landlords. Similarly, public agency interviewees were staff from agencies that have worked on projects related to TOD in the area. Interviewees were selected to represent a variety of sectors; we compiled the sample from secondary sources (reports and newspaper articles) and then contacted representatives from each sector at random (first via email and then by phone) to request an interview. Occasionally representatives refused to grant an interview, typically because of scheduling challenges; this occurred more frequently with private sector actors, such as real estate brokers. In a few cases, we obtained new interviewee names via the snowball method, from the respondents we had already interviewed. Interviews ranged across a variety of topics, including policies and plans affecting the neighborhood, change in neighborhood residents and businesses, housing market pressures, public safety, and accessibility (among others). We used identical methods for the case studies in chapter 6.

4. In the Bay Area, cities can voluntarily designate Priority Development Areas, which are districts planned to receive most of the jurisdiction's future housing units, along with its office and retail growth. The Bay Area's regional planning agencies, MTC and ABAG, target incentives for these areas.

5. During the same period (2008–2013), the increase in Chinatown's Section 8 housing was very small (1.9 percent).

6. The Ellis Act allows landlords to evict tenants if they change the use of their building (for example, from rental units to condos).

Chapter 5

1. The Federal Transit Administration (FTA website 2018) defines joint development as projects involving:

- Integrated development of transit and non-transit improvements, with transit projects physically or functionally related to commercial, residential, or mixed-use development
- Public and private investments that are coordinated between transit agencies and developers to improve land owned by a transit agency or related to a transit improvement
- Mutual benefit and shared cost among all parties involved.

2. The nonprofit TransForm, originally called the Transportation and Land Use Coalition, formed in 1997 with the explicit goal of intensifying development around transit, while another nonprofit, San Francisco Planning and Urban Research (SPUR), began focusing on smarter growth patterns in the mid-1990s.

3. For Los Angeles, we made two modifications to the index in order to better reflect the particularities of the Southern California region. First, we included change in non-Hispanic whites in the demographic change criteria. Since gentrification involves the influx of the dominant social group then in Los Angeles, that group, in terms of political power and socioeconomic status, is non-Hispanic whites. Second, instead of focusing on homeowners and property values (e.g., change in home values), we focused on the rental housing market (i.e., absolute increase in median gross rent relative to that in the county) as a measure of the influx of capital. This is a more conservative approach to defining gentrification; removing the racial criterion would have added some tracts where the white population is not increasing, and including home value increases would have added some neighborhoods with a concentration of home ownership.

4. In order to calculate the share of movers in for each characteristic (income, race, and education), we first had to subtract the total number of nonmovers, or the "stayers" (those who reported living in the same house one year ago), in the group from the total mobility universe, which in this case were persons age 15 years old or older. This calculation leaves us with the absolute number of movers in with each characteristic. We then divided the absolute number by the total movers in for that tract and multiplied by 100 to get the share.

5. Data on Section 8 units were derived from the Housing and Urban Development's (HUD) Picture of Subsidized Households for years 2000 and 2013. Section 8 data for 2000 were adjusted to 2010 boundaries using Brown University's Longitudinal

Tract Data Base (LTDB) crosswalks. Data on subsidized units were derived from the California Housing Partnership Corporation, which verified HUD and HCD data, and includes some non-LIHTC federally and state subsidized housing units (e.g., project-based Section 8). The placed-in-service variable was used to identify units constructed up to 2000 and 2014. All units are normalized as a fraction of the housing stock (i.e., divided by total housing units). The change represents the proportion after minus the proportion before.

6. To overcome this obstacle, researchers can also use the confidential data from the US census or Panel Survey of Income Dynamics.

7. Although the change in low-income households could be caused by income mobility (e.g., low-income households moving into middle- or upper-income categories, or vice versa), from our analysis of data from the Panel Survey of Income Dynamics, we estimate that there would have been a net increase in low-income households in most places, likely caused by the Great Recession and increasing income inequality more generally.

8. For market-rate units, we calculated totals from the Dataquick tax assessor database for 2000 to 2013. Subsidized unit totals come from the California Housing Partnership and cover 2000—2014.

9. Data for market-rate units cover the period 2005–2012, while data for subsidized (LIHTC) units cover 2000–2013.

10. Although Latino ethnicity is negative and insignificant when regressing only gentrification-eligible tracts, it is positive and significant for the region as a whole (for the full study, see Chapple et al. 2017).

11. In Los Angeles, we define affordable rental units as units with median gross rent of less than 80 percent of the county median. For the Bay Area, we define these units as those where low-income households are paying less than 30 percent of their income on rent, and we subtract out subsidized units.

12. In Los Angeles, we ran an analysis looking at the change in public housing units in transit neighborhoods and nontransit neighborhoods, and we found that changes in transit neighborhoods are essentially the same as in nontransit neighborhoods (the difference in proportion is not statistically different). From 2000 to 2013, transit neighborhoods lost 5.8 percent of their public housing units, whereas nontransit neighborhoods lost 6 percent.

13. The Ellis Act is a California state law that allows landlords to evict tenants in order to get out of the rental business. Ellis Act evictions are often used prior to condominium conversion.

Chapter 6

1. These cases draw extensively on archival research and interviews, as well as some census and real estate market data. For the interview methods, see chapter 4, note 23.

2. BART daily ridership increased 27 percent from April 2007 to April 2016, while ridership at the 16th Street Mission and 24th Street Mission BART stations increased 16 percent.

3. https://www.zillow.com/redwood-city-ca/home-values/.

4. Figures calculated based on the US Census Bureau's Longitudinal Employer-Household Data for 2014.

5. Some of these groups are: Unión De Vecinos (UDV), East Los Angeles Community Corporation (ELACC), Boyle Heights Alianza Anti Artwashing and Desplazamiento, Corazón de Pueblo, and Defend Boyle Heights.

6. We defined affordable rental units as those with median gross rent of less than 80 percent of the 2000 Los Angeles County median.

Chapter 7

1. NAICS is the standard used by federal agencies in classifying business establishments for the purpose of collecting and analyzing statistical data about US businesses.

2. Commercial establishment density was calculated by dividing the total commercial establishments in each census tract by the tract's land area. The commercial lot area ratio was defined as the census tract's commercial lot area divided by the census tract's total lot area. This was calculated using Dataquick assessor data, which totals each tract's lot area by use. The commercial establishment density (definition a) seems to favor small-lot commercial corridors. A good example of this is the Ventura Boulevard corridor in the San Fernando Valley in Los Angeles. This corridor has high establishment density but may not have as high commercial lot acreage relative to total lot acreage. Definition (a) picked up this whole corridor, while definition (b) did not. On the other hand, definition (b) seems to favor large-lot commercial development, such as malls and big-box stores. This type of development has a high commercial footprint but may not have as many establishments per area. It is also worth noting that this definition seems to pick up a more dispersed set of tracts. In an effort to produce an inclusive definition of commercial districts, we considered a census tract as commercial if it satisfied *either* of the two definitions described here.

3. We used the NETS database to calculate the number of establishments in each census tract in each study period year (1990–2013), as well as births, deaths, moves in, and moves out of each census tract in each year of the study period. The count of establishments that moved in or out of a tract in a given year was normalized over the total number of tract establishments in the tract.

4. An establishment was considered a nonchain small business if it had fewer than 20 employees and fewer than five related establishments.

5. In Temescal, the commercial corridor was defined as the segment between 51st Street and West MacArthur Boulevard, while in KoNo it was defined as the segment between West Grand Avenue and 32nd Street.

6. This is an example of the importance of qualitative research to groundtruth quantitative findings.

Chapter 8

1. The cities included Denver, Colorado; Des Moines, Iowa; Indianapolis, Indiana; Hartford, Connecticut; Louisville, Kentucky; Milwaukee, Wisconsin; Oakland, California; Providence, Rhode Island; San Antonio, Texas; and White Center (near Seattle), Washington.

Chapter 9

1. Higher-income households are less likely than lower-income households to use transit, when access is held constant. This means that housing growth near transit stations may not increase ridership as much as anticipated, if it involves displacement of low-income households.

2. For example, low-density development tends to be associated with automobile dependence and high rates of greenhouse gas emissions, while more clustered development patterns focused on transit hubs tend to reduce car dependence and increase walking, cycling, and transit use, thereby reducing greenhouse gas emissions from transportation.

3. Household data used in the Bay Area model were drawn from the US Census Bureau's American Community Survey (ACS) Public Use Microdata Sample (PUMS), which includes housing tenure. We determined a household's tenure from its PUMS record and assigned the same tenure to the *housing unit* a household initially occupies. Unoccupied units were assigned a random tenure, and new construction was assigned a tenure based on whether the predicted sale price or capitalized rent was higher. (Our price model was estimated from recent sale transactions, and our rent model was estimated from online rental listings.) Although prices and rents may be correlated and move in tandem some of the time, this model structure allows dynamics where rents and prices may not be synchronized and might diverge based on the relative changes in demand and supply of each.

4. This is calculated from households that have spent less than 12 months in their current location, using 2013 one-year ACS PUMS data for the nine-county San Francisco Bay Area. This retrospective data likely *over*estimate owner moves, because former renters who purchased a home are counted as homeowners.

5. Models of regions in the United States can calibrate these adjustments using local ACS PUMS data.

6. It is not uncommon for statistical models to find that, other things being equal, movers prefer a house that is more expensive. This is clearly not the case—higher prices just reflect other desirable characteristics that are not captured in the model.

Chapter 10

1. Note that we do not propose antigentrification policies, following the argument of Schlichtman, Patch, and Hill (2017) that only by separating displacement from gentrification can we target the broad array of displacement processes (some unrelated to gentrification), as well as support grassroots revitalization that does not involve extensive displacement.

2. However, we should note that the amount of government subsidy required for subsidized housing is significantly higher than that for market-rate housing, so market-rate construction may be more cost-effective at reducing displacement.

3. In tax increment financing (TIF) districts a portion of property taxes can be diverted to fund infrastructure and other public improvements.

4. RHNA requires cities to ensure through their General Plan (specifically the Housing Element) that they can accommodate existing and future housing needs (based on projected job and population growth) through existing housing stock and future development. In order to show that they are accommodating the need for affordable housing, cities must show that they have zoned at high densities (30 units or higher for cities of population 25,000 or more). The state of California must certify that the housing elements accommodate their fair share; without this certification, cities may experience challenges in obtaining state bond and housing funding.

5. Interestingly, the same pattern does not apply to low-income (50 percent to 80 percent of the average median income) housing, where only cities that have inclusionary zoning seem to outperform cities without this policy in affordable housing production. We should note, however, that cities using inclusionary zoning represented the most robust sample (78), since this is the most prevalent policy, while the sample of cities using the other policies was very small (ranging from 19 to 24).

Chapter 11

1. In addition, a group of 22 California planning professors signed a letter of support authored by three faculty members at the University of California, Los Angeles.

2. The final bill that was presented for vote included, among other items, provisions for compliance with local inclusionary housing ordinances or, if municipalities did

not have such ordinances, provision of a "specified percentage of onsite affordable housing," with no mention, however, of minimum required percentages. Other assurances included forbidding developers from demolishing rent-controlled housing units without a permit from local government. If developers were granted such a permit, they would have to prepare a relocation benefits assistance plan, pay moving expenses for displaced tenants, and subsidize their new rent. The revised bill sought to appease the fears of local governments by "complying with any locally adopted objective zoning standards, complying with any locally adopted minimum unit mix requirements, and if the development includes specified types of parcels, agreeing to replace those units and to offer units at specified affordable rates" (California Legislature 2018).

References

Abdelgany, S. 2017. *Catching Affordability Where It's At: Acquisition/Rehab of Oakland's Unsubsidized Affordable Housing*. Professional report. Berkeley: University of California, Berkeley.

Altshuler, A., and D. Luberoff. 2003. *Mega Projects: The Changing Politics of Urban Public Investment*. Washington, DC: Brookings Institution Press.

American Public Transit Association (APTA). 2015. *Public Transportation Factbook*. Washington, DC: American Public Transit Association.

American Public Transit Association (APTA). 2017. *Quarterly Ridership Report*. Washington, DC: American Public Transit Association. http://www.apta.com/resources/statistics/Pages/default.aspx.

Amin, R. 2017. *The Caltrain Corridor Vision Plan: How to Keep the Bay Area's Innovation Economy Moving*. San Francisco: San Francisco Planning and Urban Research.

Annunziata, S. 2014. "Gentrification and Public Policies in Italy." In *The Changing Italian Cities: Emerging Imbalances and Conflicts*, edited by A. Calafati, 23–34. L'Aquila, Italy: Gran Sasso Science Institute (GSSI) Urban Studies Working Papers.

Aranda, E. L. 2016. *La Red de Metro de Santiago y su Efecto en la Distribución Desigual Sobre el Territorio, Bajo una Lógica de Crecimiento Inmobiliario Basado en la Mercantilización del Suelo*. Santiago: Universidad de Chile.

Armstrong, R. J., and D. A. Rodriguez. 2006. "An Evaluation of the Accessibility Benefits of Commuter Rail in Eastern Massachusetts Using Spatial Hedonic Price Functions." *Transportation* 33 (1): 21–43.

Arnott, R. 1995. "Time for Revisionism on Rent Control?" *Journal of Economic Perspectives* 9 (1): 99–120.

Atkinson, R. 2000. "Measuring Gentrification and Displacement in Greater London." *Urban Studies* 37 (1): 149–165. doi:10.1080/0042098002339.

Atkinson-Palombo, C., and M. Kuby. 2011. "The Geography of Advance Transit-Oriented Development in Metropolitan Phoenix, Arizona, 2000–2007." *Journal of Transport Geography* 19:189–199.

Auger, D. A. 1979. "The Politics of Revitalization in Gentrifying Neighborhoods: The Case of Boston's South End." *Journal of the American Planning Association* 45 (4): 515–522.

Avila, E. 2006. *Popular Culture in the Age of White Flight: Fear and Fantasy in Suburban Los Angeles*. Berkeley: University of California Press.

Axel-Lute, M. 2011. "CLTs Go Commercial." *Shelterforce* (blog), July 25, 2011. https://shelterforce.org/2011/07/25/clts_go_commercial/.

Badyina, A., and O. Golubchikov. 2005. "Gentrification in Central Moscow—a Market Process or a Deliberate Policy? Money, Power and People in Housing Regeneration in Ostozhenka." *Geografiska Annaler: Series B, Human Geography* 87 (2): 113–129.

Bae, C., M. Jun, and H. Park. 2003. "The Impact of Seoul's Subway Line 5 on Residential Property Values." *Transport Policy* 10 (2): 85–94.

Baker, D. M., and B. Lee. 2017. "How Does Light Rail Transit (LRT) Impact Gentrification? Evidence from Fourteen US Urbanized Areas." *Journal of Planning Education and Research*. https://doi.org/10.1177/0739456X17713619.

Banham, R. (1972) 2009. *Los Angeles: The Architecture of Four Ecologies*. Berkeley: University of California Press.

Barbour, E., and E. A. Deakin. 2012. "Smart Growth Planning for Climate Protection: Evaluating California's Senate Bill 375." *Journal of the American Planning Association* 78 (1): 70–86.

Barragan, B. 2016. "Boyle Heights Activists Want to Banish All Art Galleries." *LA Curbed*, July 14, 2016. http://la.curbed.com/2016/7/14/12191266/boyle-heights-art-galleries-gentrification.

Barrett, P., and M. Rose. 1999. "Street Smarts: The Politics of Transportation Statistics in the American City, 1900–1990." *Journal of Urban History* 25 (3): 405–433.

Bartholomew, K., and R. Ewing. 2011. "Hedonic Price Effects of Pedestrian- and Transit-Oriented Development." *Journal of Planning Literature* 26 (1): 18–34.

Barton, M. 2016. "An Exploration of the Importance of the Strategy Used to Identify Gentrification." *Urban Studies* 53 (1): 92–111.

Barton, M. S., and J. Gibbons. 2015. "A Stop Too Far? How Does Public Transportation Concentration Influence Neighborhood Median Household Income?" *Urban Studies* 54 (2): 538–554. doi: 10.1177/0042098015593462.

Basker, E. 2005. "Job Creation or Destruction? Labor Market Effects of Wal-Mart Expansion." *Review of Economics and Statistics* 87 (1): 174–183.

Basolo, V. 2013. "Examining Mobility Outcomes in the Housing Choice Voucher Program: Neighborhood Poverty, Employment, and Public School Quality." *Cityscape* 15 (2): 135–153.

Basolo, V., and A. Yerena. 2017. "Residential Mobility of Low-Income, Subsidized Households: A Synthesis of Explanatory Frameworks." *Housing Studies* 32 (6): 841–862.

Bates, L. 2013. "Gentrification and Displacement Study: Implementing an Inclusive Development Strategy in the Context of Gentrification." Working paper commissioned by the City of Portland Bureau of Planning and Sustainability, May 2013. https://www.portlandoregon.gov/bps/article/454027.

BayRail Alliance. 2017. *Peninsula Commuter Rail History*. http://www.bayrailalliance.org/peninsula_commuter_rail_history.

Belden Russonello Strategists. 2013. *Americans' Views on Their Communities, Housing and Transportation: National Survey*. Washington, DC: Urban Land Institute.

Bell, D. 2007. "The Hospitable City: Social Relations in Commercial Spaces." *Progress in Human Geography* 31 (1): 7–22.

Belzer, D., and S. Poticha. 2009. "Understanding TOD: Lessons Learned 1999–2009." In *Fostering Equitable and Sustainable TOD: Briefing Papers for a Convening on Transit-Oriented Developmen*t, 4–11. Oakland, CA: Center for Transit-Oriented Development.

Benton, C. R. 2014. "Exploring the Diversity of Gentrification in Three Chicago Cultural Districts—Differences in the Artist Class as First Wave Gentrifiers." PhD diss., Department of Geography, Michigan State University. http://search.proquest.com/docview/1612602607?accountid=14512.

Berkowitz, E. 2005. "The Subway Mayor." *LA Weekly*, August 18, 2005. http://www.laweekly.com/news/the-subway-mayor-2140484.

Bernick, M. 1996. "Transit Villages: Tools for Revitalizing the Inner City." *Access* 9:13–17.

Bernick, M., and R. Cervero. 1997. *Transit Villages in the 21st Century*. New York: McGraw-Hill.

Bernstein, S. 2009. "Streets, Streetcars and Carfare: In America's Urban Past and Future." In *Street Smart: Streetcars and Cities in the 21st Century*, edited by G. Ohland and S. Poticha, P13–P19. Oakland: Reconnecting America.

Berrey, E. C. 2005. "Divided over Diversity: Political Discourse in a Chicago Neighborhood." *City and Community* 4 (2): 143–170.

Bertolini, L., C. Curtis, and J. Renne. 2009. "Station Area Projects in Europe and Beyond: Towards Transit Oriented Development?" *Built Environment* 38 (1): 31–50.

Betancur, J. J. 2002. "The Politics of Gentrification: The Case of West Town in Chicago." *Urban Affairs Review* 37 (6): 780–814.

Bickford, G. 2016. "Transit-Oriented Development in the South African Context: An Analytical Review of Johannesburg's Recent Urban Policy and Strategy." PhD diss., University of Cape Town.

Bierbaum, A., J. M. Vincent, and D. L. McKoy. 2010. "Linking Transit-Oriented Development, Families, and Schools." *Community Investments* 22 (2): 18–21, 45.

Bierlaire, M., A. de Palma, R. Hurtuba, and P. Waddell, eds. 2015. *Integrated Transport and Land Use Modeling for Sustainable Cities*. London: Routledge and EPFL Press.

Billings, S. B. 2011. "Estimating the Value of a New Transit Option." *Regional Science and Urban Economics* 41 (6): 525–536.

Birch, E. L. 2005. *Who Lives Downtown*. Washington, DC: The Brookings Institution.

Boarnet, M., R. Bostic, S. Rodnyansky, R. Santiago-Bartolomei, D. Williams, and A. Prohofsky. 2017. *Sustainability and Displacement: Assessing the Spatial Pattern of Residential Moves near Rail Transit*. Los Angeles: National Center for Sustainable Transportation.

Boarnet, M., and N. Compin. 1999. "Transit-Oriented Development in San Diego County: The Incremental Implementation of a Planning Idea." *Journal of the American Planning Association* 65 (1): 80–95.

Bocarejo, J. P., I. Portilla, and M. A. Pérez. 2013. "Impact of Transmilenio on Density, Land Use, and Land Value in Bogotá." *Research in Transportation Economics* 40 (1): 78–86.

Bonnar, D. M. 1979. "Migration in the South East of England: An Analysis of the Interrelationship of Housing, Socio-economic Status and Labour Demand." *Regional Studies* 13 (4): 345–359.

Boorse, J. W. 2001. *This Is Light Rail Transit*. Transportation Research Board Booklet no. E-C033. Washington, DC: Transportation Research Board.

Bostic, R. W., and R. W. Martin. 2003. "Black Home-owners as a Gentrifying Force? Neighbourhood Dynamics in the Context of Minority Home-Ownership." *Urban Studies* 40 (12): 2427–2449. doi:10.1080/0042098032000136147.

Bounds, M., and A. Morris. 2006. "Second Wave Gentrification in Inner-City Sydney." *Cities* 23 (2): 99–108.

Bowes, D., and K. R. Ihlanfeldt. 2001. "Identifying the Impacts of Rail Transit Stations on Residential Property Values." *Journal of Urban Economics* 50 (1): 1–25.

Boyd, M. 2005. “The Downside of Racial Uplift: Meaning of Gentrification in an African American Neighborhood.” *City and Society* 17 (2): 265–288.

Brenner, N., and N. Theodore. 2002. “Cities and the Geographies of Actually Existing Neoliberalism.” *Antipode* 34 (3): 349–379.

Bridge, G., T. Butler, and L. Lees, eds. 2012. *Mixed Communities: Gentrification by Stealth?* Bristol: Policy Press.

Bridge, G., and R. Dowling. 2001. “Microgeographies of Retailing and Gentrification.” *Australian Geographer* 32 (1): 93–107.

Bronstein, Z. 2017. “When Affordable Housing Meets Free-Market Fantasy.” *Dissent*, November 27, 2017. https://www.dissentmagazine.org/online_articles/hsieh-moretti-affordable-housing-free-market-fantasy.

Brown, A. E. 2016. “Rubber Tires for Residents: Bus Rapid Transit and Changing Neighborhoods in Los Angeles, California.” *Transportation Research Record: Journal of the Transportation Research Board*, no. 2539:1–10.

Brown, E., and T. Ranney. 2015. *Community Land Trusts and Commercial Properties: A Social Justice Committee Report for the Urban Land Institute Technical Assistance Program for Atlanta Land Trust Collaborative*. April 22, 2015. https://documents.mx/documents/commercial-community-land-trusts.html.

Bruch, E. E., and R. D. Mare. 2012. “Methodological Issues in the Analysis of Residential Preferences, Residential Mobility, and Neighborhood Change.” *Sociological Methodology* 42 (1): 103–154.

Burgess, E. W. 1925. “The Growth of the City.” In *The City: Suggestions of Investigation of Human Behavior in the Urban Environment*, edited by Robert Ezra Park, 47–62. Chicago: University of Chicago Press.

Burnett, K. 2014. “Commodifying Poverty: Gentrification and Consumption in Vancouver’s Downtown Eastside.” *Urban Geography* 35 (2): 157–176. https://doi.org/10.1080/02723638.2013.867669.

Burns, V. F., J. P. Lavoie, and D. Rose. 2012. “Revisiting the Role of Neighbourhood Change in Social Exclusion and Inclusion of Older People.” *Journal of Aging Research* 2012:1–12. https://doi.org/10.1155/2012/148287.

Business Resources Collaborative (BRC). 2015. “Final Report.” http://www.funderscollaborative.org/wp-content/uploads/2016/03/BRC_0315-1_Final_Report_10.pdf.

California Department of Transportation. 2002. *Statewide Transit-Oriented Development Study: Factors for Success in California*. Sacramento: California Department of Transportation.

California Department of Transportation. 2011. *Baselines: Current and Future Transit and Demographic Trends*. Prepared for the California Statewide Transit Strategic Plan. Sacramento: California Department of Transportation. http://www.dot.ca.gov/hq/MassTrans/STSP/Baselines_Report_071911.pdf.

California Legislature. 2018. "SB 827 Planning and Zoning: Transit-Rich Housing Bonus." Senate Bill No. 827. https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB827.

Callwell, R. 1999. *Transit in San Francisco: A Selected Chronology, 1850–1995*. San Francisco: San Francisco Municipal Railway.

Calthorpe, P. 1993. *The Next American Metropolis: Ecology, Communities, and the American Dream*. New York: Princeton Architectural Press.

Calthorpe, P., and Associates. 1990. *Design Guidelines for Sacramento County*. Sacramento, CA: Sacramento County Planning Community Development Department.

Calthorpe, P., and Associates. 1992. *City of San Diego Land Guidance System: Design Guidelines/Final Public Review Draft*. San Diego, CA: City of San Diego.

Caltrain. 2017. *Annual Passenger Counts*. Caltrain. http://www.caltrain.com/about/statsandreports/Ridership.html.

Campbell, S. 1996. "Green Cities, Growing Cities, Just Cities? Urban Planning and the Contradictions of Sustainable Development." *Journal of the American Planning Association* 62 (3): 296–312.

Cao, X., and S. Lou. 2017. "When and How Much Did the Green Line LRT Increase Single-Family Housing Values in St. Paul, Minnesota?" *Journal of Planning Education and Research*. https://doi.org/10.1177/0739456X17707811.

Carrión, A. 2016. "Megaprojects and the Restructuring of Urban Governance." *Latin American Perspectives* 43 (1): 252–265.

Casellas, A., and M. Pallares-Barbera. 2009. "Public-Sector Intervention in Embodying the New Economy in Inner Urban Areas: The Barcelona Experience." *Urban Studies* 46 (5–6): 1137–1155.

Casgrain, A., and M. Janoschka. 2013. "Gentrificación y Resistencia en las Ciudades Latinoamericanas: El Ejemplo de Santiago de Chile." *Andamios* 10 (22): 19–44.

Center for Community Innovation. 2014. *The Mission District, San Francisco*. Berkeley, CA: Center for Community Innovation.

Center for Transit-Oriented Development (CTOD). 2006. *Preserving and Promoting Diverse Transit-Oriented Neighborhoods. Oakland, CA:* Center for Transit-Oriented Development. http://ctod.org/pdfs/2006PreservingPromotingDiverseTOD.pdf.

Center for Transit-Oriented Development (CTOD). 2009a. *Fostering an Equitable and Sustainable Transit-Oriented Development*. Oakland, CA: Center for Transit-Oriented Development. https://www.hud.gov/offices/cpd/about/conplan/pdf/Fostering_Equitable_and_Sustainable_TOD.pdf.

Center for Transit-Oriented Development (CTOD). 2009b. *TOD 201 Mixed-Income Housing near Transit: Increasing Affordability with Location Efficiency*. Oakland, CA: Center for Transit-Oriented Development. http://www.reconnectingamerica.org/assets/Uploads/091030ra201mixedhousefinal.pdf.

Center for Transit-Oriented Development (CTOD). 2010. *Creating Successful Transit-Oriented Districts in Los Angeles: A Citywide Toolkit for Achieving Regional Goals*. Oakland, CA: Center for Transit-Oriented Development. http://media.metro.net/projects_studies/tod/images/CTOD%20-%20Creating%20Successful%20Transit-Oriented%20Districts%20in%20Los%20Angeles.pdf.

Center for Transit-Oriented Development (CTOD). 2011. *Rails to Real Estate: Development Patterns along Three New Transit Lines*. Oakland, CA: Center for Transit-Oriented Development. http://ctod.org/pdfs/2011R2R.pdf.

Center for Transit-Oriented Development, Community Design + Architecture CD+A, and Nelson Nygaard. 2014. *TOD Policy Status Report*. San Francisco: Metropolitan Transportation Commission.

Central Corridor Funders Collaborative (CCFC). 2015. "Prepare, Survive, Thrive: A Collaborative Approach to Small Business Support and Construction Mitigation on the Green Line." Central Corridor Funders Collaborative. http://www.funderscollaborative.org/wp-content/uploads/2016/03/BusinessMitigationCaseStudy_SinglePages.pdf.

Cervero, R. 1994. "Rail Transit and Urban Development." *Journal of the American Planning Association* 60 (1): 83–94.

Cervero, R. 1995. "Sustainable New Towns: Stockholm's Rail-Served Satellites." *Cities* 12 (1): 41–51.

Cervero, R. 2003. "Growing Smart by Linking Transportation and Land Use: Perspectives from California." *Built Environment* 29 (1): 66–78.

Cervero, R. 2005. "Progressive Transport and the Poor: Bogota's Bold Steps Forward." *Access* 1 (27): 24–30.

Cervero, R. 2009. "Public Transport and Sustainable Urbanism: Global Lessons." In *Transit Oriented Development: Making It Happen*, edited by C. Curtis, J. Renne, and L. Bertolini, 23–35. Surrey: Ashgate.

Cervero, R. 2013. "Linking Urban Transport and Land Use in Developing Countries." *Journal of Transport and Land Use* 6 (1): 7–24.

Cervero, R., M. Bernick, and J. Gilbert. 1994. "Market Opportunities and Barriers to Transit-Oriented Development in California." UCTC Working Paper no. 223. Berkeley: University of California Transportation Center (UCTC).

Cervero, R., and M. Duncan. 2002a. "Benefits of Proximity to Rail on Housing Markets: Experiences in Santa Clara County." *Journal of Public Transportation* 5 (1): 1–18.

Cervero, R., and M. Duncan. 2002b. *Land Value Impacts of Rail Transit Services in Los Angeles County*. Report prepared for the National Association of Realtors and the Urban Land Institute. http://www3.drcog.org/documents/archive/todvaluelosangeles.pdf.

Cervero, R., and M. Duncan. 2002c. "Transit's Value-Added Effects: Light and Commuter Rail Services and Commercial Land Values." *Transportation Research Record*, no. 1805:8–15.

Cervero, R., C. Ferrell, and S. Murphy. 2002. "Transit-Oriented Development and Joint Development in the United States: A Literature Review." *TCRP Research Results Digest*, no. 52:1–144.

Cervero, R., and C. D. Kang. 2011. "Bus Rapid Transit Impacts on Land Uses and Land Values in Seoul, Korea." *Transport Policy* 18 (1): 102–116.

Cervero, R., and K. Kockelman. 1997. "Travel Demand and the 3Ds: Density, Diversity, and Design." *Transportation Research D* 2 (3): 199–219.

Cervero, R., and J. Landis. 1997. "Twenty Years of the Bay Area Rapid Transit System: Land Use and Development Impacts." *Transportation Research Part A: Policy and Practice* 31 (4): 309–333.

Cervero, R., and J. Murakami. 2009. "Rail and Property Development in Hong Kong: Experiences and Extensions." *Urban Studies* 46 (10): 2019–2043.

Cervero, R., S. Murphy, C. Ferrell, N. Goguts, Y-H. Tsai, G. B. Arrington, J. Boroski, J. Smith-Heimer, R. Golem, P. Peninger, E. Nakajima, E. Chui, R. Dunphy, M. Myers, S. McKay, and N. Witenstein. 2004. *Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects*. Transit Cooperative Research Program no. 102. Washington, DC: Transportation Research Board. http://www.valleymetro.org/images/uploads/general_publications/TCRP-Report-102_TOD-in-the-US-Experiences-Challenges-and-Prospects_10-04.pdf.

Chan, S. 2001. "Spatial Lock-in: Do Falling House Prices Constrain Residential Mobility?" *Journal of Urban Economics* 49 (3): 567–586.

Chapple, K. 2009. "Mapping Susceptibility to Gentrification: The Early Warning Toolkit." Berkeley, CA: Center for Community Innovation.

Chapple, K. 2015. *Planning Sustainable Cities and Regions: Towards More Equitable Development*. Abingdon: Routledge.

Chapple, K. 2017. "Income Inequality and Urban Displacement: The New Gentrification." *New Labor Forum* 26 (1): 84–93. Los Angeles: Sage Publications.

Chapple, K., R. Hickey, and A. Rao. 2007. *Transit-Oriented for All: The Case for Mixed-Income Transit-Oriented Communities in the Bay Area*. A Great Communities Collaborative Framing Paper. Berkeley, CA: Center for Community Innovation.

Chapple, K., S. Jackson, and A. J. Martin. 2010. "Concentrating Creativity: The Planning of Formal and Informal Arts Districts." *City, Culture and Society* 1 (4): 225–234. https://doi.org/10.1016/j.ccs.2011.01.007.

Chapple, K., and R. Jacobus. 2009. "Retail Trade as a Route to Neighborhood Revitalization." In *Urban and Regional Policy and Its Effects*, vol. 2, edited by M. A. Turner, H. Wial, and H. Wolman, 19–68. Washington, DC: Brookings Institution Press.

Chapple, K., J. V. Thomas, D. Belzer, and G. Autler. 2004. "Fueling the Fire: Information Technology and Housing Price Appreciation in the San Francisco Bay Area and the Twin Cities." *Housing Policy Debate* 15 (2): 347–383.

Chapple, K., P. Waddell, D. Chatman, M. Zuk, A. Loukaitou-Sideris, P. Ong, K. Gorska, S. Gonzalez, and C. Pech. 2017. *Developing a New Methodology for Analyzing Displacement*. Sacramento: California Air Resources Board.

Chapple, K., J. Wegmann, A. Nemirow, and C. Dentel-Post. 2011. "Yes in My Backyard: Mobilizing the Market for Secondary Units." https://escholarship.org/uc/item/6fz8j6gx.

Chapple, K., and M. Zuk. 2016. "Forewarned: The Use of Neighborhood Early Warning Systems for Gentrification and Displacement." *Cityscape* 18 (3): 109–130.

Charles, C. Z. 2003. "The Dynamics of Racial Residential Segregation." *Annual Review of Sociology* 29 (1): 167–207.

Chatman, D., L. Rayle, C. J. Gabbe, J. Plowman, P. Sohn, Re. Crane, A. Spevack, E. Wise, K. Stoy, M. P. Giottonini, A. Ordower, and Ra. Crane. 2016. *Analyzing the Economic Benefits and Costs of Smart Growth*. Sacramento: California Air Resources Board.

Chatman, D., R. Xu, and J. Park. 2017. "Effects of Auto Use on Household Displacement from Rail Station Areas." In K. Chapple, P. Waddell, D. Chatman, M. Zuk, A. Loukaitou-Sideris, P. Ong, K. Gorska, S. Gonzalez, and C. Pech, *Developing a New Methodology for Analyzing Potential Displacement*, 156–180 Sacramento: California Air Resources Board. http://www.urbandisplacement.org/sites/default/files/images/arb_tod_report_13-310.pdf.

Chava, J. 2016. "Incorporating Equity into Public Transport Planning: The Case of Bengaluru." PhD diss., Curtin University.

Chávez, E. 2015. "It Definitely Feels as if It's Happening to You: A Case Study of the Personal Effects of Gentrification in Highland Park." B.A. thesis, Occidental College.

Checker, M. 2011. “Wiped Out by the ‘Greenwave’: Environmental Gentrification and the Paradoxical Politics of Urban Sustainability.” *City and Society* 23 (2): 210–229.

Cheshire, P. 2013. “Why Do Birds of a Feather Flock Together? In *Mixed Communities: Gentrification by Stealth?*, edited by G. Bridge, T. Butler, and L. Lees, 17–24. Bristol: Policy Press.

Chinatown Community for Equitable Development (CCED). 2015. Authors’ interview, April 15, 2015.

Choi, N. 2016. “Metro Manila through the Gentrification Lens: Disparities in Urban Planning and Displacement Risks.” *Urban Studies* 53 (3): 577–592.

Chu, H., and A. Curtiss. 1995. “Making Way for Transit Town.” *Los Angeles Times*, March 19, 1995, A3.

City of Chicago. 1959. *Chicago Metropolitan Transportation Study Survey Findings*, vol. 1. Chicago: City of Chicago.

City of Chicago. 1960. *Chicago Metropolitan Transportation Study Survey Findings*, vol. 2. Chicago: City of Chicago.

City of Chicago. 1962. *Chicago Metropolitan Transportation Study Survey Findings*, vol. 3. Chicago: City of Chicago.

City of Detroit. 1955. *Detroit Metropolitan Area Traffic Study*, pt. 1: *Data Summary and Interpretation*. Detroit: City of Detroit.

City of Detroit. 1956. *Detroit Metropolitan Area Traffic Study*, pt. 2: *Future Traffic, and a Long-Range Expressway Plan*. Detroit: City of Detroit.

City of Los Angeles. 1993. *Land Use/Transportation Policy*. Los Angeles City Planning Department, Council File no. 93-0478, City Plan Case no. 93-0257.

City of San Jose. 1987. *Draft Environmental Impact Report, San Jose Arena Facility*. San Jose, CA: City of San Jose.

Clapson, M., and R. Hutchison, eds. 2010. *Suburbanization in Global Society*, vol. 10. Bingley, UK: Emerald Group Publishing.

Clark, W. A. 2012. “Moving and Staying in Los Angeles Neighborhoods: Money Matters, but so Does Family Composition.” *Cityscape* 14 (3): 115–135.

Clark, W. A., and V. Ledwith. 2006. “Mobility, Housing Stress, and Neighborhood Contexts: Evidence from Los Angeles.” *Environment and Planning A* 38 (6): 1077–1093.

Clay, P. L. 1979. *Neighborhood Renewal: Middle-Class Resettlement and Incumbent Upgrading in American Neighborhoods*. Lexington, MA: Lexington Books.

Collins, B., and A. Loukaitou-Sideris. 2016. "Skid Row, Gallery Row and the Space in between: Cultural Revitalisation and Its Impacts on two Los Angeles Neighbourhoods." *Town Planning Review* 87 (4): 401–427. https://doi.org/10.3828/tpr.2016.27.

Cook, A. 2010. "The Expatriate Real Estate Complex: Creative Destruction and the Production of Luxury in Post-Socialist Prague." *International Journal of Urban and Regional Research* 34 (3): 611–628.

Coulson, N. E., and P. L. Grieco. 2013. "Mobility and Mortgages: Evidence from the PSID." *Regional Science and Urban Economics* 43 (1): 1–7.

Coulton, C. 2012. "Defining Neighborhoods for Research and Policy." *Cityscape* 14 (2): 231–236.

Coulton, C., B. Theodos, and M. A. Turner. 2009. *Family Mobility and Neighborhood Change: New Evidence and Implications for Community Initiatives*. Washington, DC: Urban Institute.

Coulton, C., B. Theodos, and M. A. Turner. 2012. "Residential Mobility and Neighborhood Change: Real Neighborhoods under the Microscope." *Cityscape* 14 (3): 55–89.

Council for Scientific and Industrial Research (CSIR). 2017. *Land-Use Transportation Interaction Model Helps Plan for Sustainable Growth and Infrastructure Investment.* https://www.csir.co.za/land-use-transportation-interaction-model-helps-plan-sustainable-urban-growth-and-infrastructure

Covarrubias, A. 1999. "Using Land Value Capture to Fund Rail Transit Extensions in Mexico City and Santiago de Chile." Master's thesis, Massachusetts Institute of Technology.

Cranor, J., C. Dang, M. Friedlander, M. Hom, M. Huerta Jones, L. Krawczyk, E. Lee, S. Nem, K. Olson-Kenny, A. Ordower, M. Simpson, A. Ujimori, V. Wu, and D. Yip. 2015. *Oriented for Whom? The Impact of TOD on Six Los Angeles Neighborhoods*. Capstone project. Los Angeles: UCLA. http://www.urbandisplacement.org/sites/default/files/images/uclatodreportfinal_-_abridge.pdf.

Credit Suisse Research Institute. 2015. *Global Wealth Report 2015*. Zurich: Credit Suisse.

Crispell, M., K. Gorska, M. Zuk, K. Chapple, A. Loukaitou-Sideris, S. Gonzalez, and S. Abdelgany. 2017. "Anti-displacement Policy Analysis." In K. Chapple, P. Waddell, D. Chatman, M. Zuk, A. Loukaitou-Sideris, P. Ong, K. Gorska, S. Gonzalez, and C. Pech. *Developing a New Methodology for Analyzing Potential Displacement, 181–261*. Sacramento: California Air Resources Board.

Curran, W. 2007. "'From the Frying Pan to the Oven': Gentrification and the Experience of Industrial Displacement in Williamsburg, Brooklyn." *Urban Studies* 44 (8): 1427–1440.

Curtis, C. 2009. "Implementing Transit Oriented Development through Regional Plans: A Case Study of Western Australia." In *Transit Oriented Development: Making It Happen*, edited by C. Curtis, J. Renne, and L. Bertolini, 39–48. Surrey: Ashgate.

Dalal, P., and K. G. Goulias. 2014. *An Analysis of Jobs, Business Establishments, Housing, and Commuting Travel in the Smart Growth Centers of the Puget Sound Region*. GEOTRANS Report 2014-3-01. Santa Barbara: Department of Geography and GEOTRANS Lab, University of California, Santa Barbara. http://geog.ucsb.edu/geotrans/publications/JAPA%20paper%20GEOTRANS%20report.pdf.

DataQuick, Inc. 2014. County Recorder Database. San Diego, CA: DataQuick, Inc.

DaVanzo, J. 1981. "Repeat Migration, Information Costs, and Location Specific Capital." *Population and Environment* 4 (1): 45–73.

Davidson, M. 2009. "Displacement, Space and Dwelling: Placing Gentrification Debate." *Ethics, Place and Environment* 12 (2): 219–234. doi:10.1080/13668790902863465.

Davidson, M., and L. Lees. 2005. "New-Build 'Gentrification' and London's Riverside Renaissance." *Environment and Planning A* 37 (7): 1165–1190. https://doi.org/10.1068/a3739.

Dawkins, C., and R. Moeckel. 2016. "Transit-Induced Gentrification: Who Will Stay, and Who Will Go?" *Housing Policy Debate* 26 (4–5): 801–818. doi:10.1080/10511482.2016.1138986.

Dawkins, C. J. 2006. "Are Social Networks the Ties That Bind Families to Neighborhoods?" *Housing Studies* 21 (6): 867–881.

Dear, M. 1996. "In the City, Time Becomes Visible: Intentionality and Urbanism in Los Angeles, 1781–1991." In *The City*, edited by A. J. Scott and E. W. Soja, 76–105. Berkeley: University of California Press.

Debrezion, G., E. Pels, and P. Rietvield. 2007. "The Impact of Railway Stations on Residential and Commercial Property Value: A Meta-analysis." *Journal of Real Estate Finance and Economics* 35 (2): 161–180.

Deka, D. 2016. "Benchmarking Gentrification near Commuter Rail Stations in New Jersey." *Urban Studies* 54 (13): 2955–2972. doi: 10.1177/0042098016664830.

De la Barra, T. 1989. *Integrated Land Use and Transport Modeling: Decision Chains and Hierarchies*. Cambridge: Cambridge University Press.

Deng, T., and J. Nelson. 2011. "Recent Developments in Bus Rapid Transit: A Review of the Literature." *Transport Reviews* 31 (1): 69–96.

Desmond, M. 2016. *Evicted: Poverty and Profit in the American City*. New York: Crown.

Desmond, M., and T. Shollenberger. 2015. "Forced Displacement from Rental Housing: Prevalence and Neighborhood Consequences." *Demography* 52 (5): 1751–1772.

Diaz, R. B. 1999. *Impacts of Rail Transit on Property Values*. McLean, VA: Booz Allen and Hamilton. http://reconnectingamerica.org/assets/Uploads/bestpractice083.pdf.

Dillon, L. 2018. "Housing Bill's 'White Privilege Problem.'" *Los Angeles Times*, May 6, 2018, B1, B5.

Dineen, J. K. 2017. "Deal Made to OK New Housing in Mission Cultural District." *San Francisco Chronicle*, March 20, 2017. http://www.sfchronicle.com/bayarea/article/Deal-made-to-OK-new-housing-in-Mission-cultural-11015300.php.

Dines, N. 2009. "The Disputed Place of Ethnic Diversity: An Ethnography of the Redevelopment of a Street Market in East London." In *Regenerating London: Governance, Sustainability and Community in a Global City*, edited by R. Imrie, L. Lees, and M. Raco, 254–272. London: Routledge.

Ding, L., J. Hwang, and E. Divringi. 2016. "Gentrification and Residential Mobility in Philadelphia." *Regional Science and Urban Economics* 61:38–51.

Dokmeci, V., U. Altunbas, and B. Yazgi. 2007. "Revitalisation of the Main Street of a Distinguished Old Neighbourhood in Istanbul." *European Planning Studies* 15 (1): 153–166.

Donaldson, R. 2006. "Mass Rapid Rail Development in South Africa's Metropolitan Core: Towards a New Urban Form?" *Land Use Policy* 23 (3): 344–352.

Donato-Weinstein, N. 2014. "The Whole Foods Effect: New Mixed-Use Project Coming to The Alameda in San Jose." *Silicon Valley Business Journal*, April 4, 2014. http://www.bizjournals.com/sanjose/news/2014/04/04/the-whole-foods-effect-new-mixed-use-project.html.

Dong, H. 2016. "If You Build Rail Transit in Suburbs Will Development Come?" *Journal of the American Planning Association* 82 (4): 316–326.

Dooling, S. 2009. "Ecological Gentrification: A Research Agenda Exploring Justice in the City." *International Journal of Urban and Regional Research* 33 (3): 621–639.

Doucet, B. 2014. "A Process of Change and a Changing Process: Introduction to the Special Issue on Contemporary Gentrification." *Tijdschrift Voor Economische En Sociale Geografie* 105 (2): 125–139. https://doi.org/10.1111/tesg.12075.

Downs, A. (2000) 2005. *Stuck in Traffic: Coping with Peak-Hour Traffic Congestion*. Washington, DC: Brookings Institution Press.

Downtown Center Business Improvement District. 2016. *Downtown Los Angeles Demographic Study*. Downtown Center Business Improvement District. https://www.downtownla.com/about-us/publications/annual-reports-quarterly-newsletters.

Duncan, M. 2005. *The San Francisco Peninsula Railroad Passenger Service: Past, Present, and Future*. http://www.askmar.com/Railroad/Book-SF-Peninsula-Railroad.pdf.

Duncan, M. 2008. "Comparing Transit Capitalization Benefits for Single-Family Condominium Units in San Diego County." *Transportation Research Record*, no. 2067: 120–130.

Duncan, M. 2011a. "The Impact of Transit-Oriented Development on Housing Prices in San Diego, CA." *Urban Studies* 48 (1): 101–127. doi: 10.1177/0042098009359958.

Duncan, M. 2011b. "The Synergistic Influence of Light Rail Stations and Zoning on Home Prices." *Environment and Planning A* 43:2125–2142.

Dyett, M. 1980. *The Impact of BART on Land Use and Development: Interpretive Summary of the Final Report*. Washington, DC: United States Department of Transportation, United States Department of Housing and Urban Development, California Metropolitan Transportation Commission.

Dyett, M., D. Dornbush, M. Fajans, C. Falcke, V. Gussman, and J. Merchant. 1979. *Land Use and Urban Development Impacts of BART, Final Report*. Washington, DC: United States Department of Housing and Urban Development and United States Department of Transportation.

Dymond, L. 2000. *Concord's Dynamic Half Century: The Years since World War II.* Carlsbad, CA: Heritage Media Corporation.

Echenique, M. H., A. D. Flowerdew, J. D. Hunt, T. R. Mayo, I. J. Skidmore, and D. C. Simmonds. 1990. "The MEPLAN Models of Bilbao, Leeds and Dortmund." *Transport Reviews* 10 (4): 309–322.

Edington, S. 2014. "The Inadequacy of the Risk Mitigation Model for the Restoration of Livelihoods of Displaced People. Case Study: The Cambodian Railway Rehabilitation Project." *Journal of Arts and Humanities* 3 (8): 114–126.

Ellen, I. G., and B. O'Flaherty. 2013. "How New York and Los Angeles Housing Policies Are Different—and Maybe Why." In *New York and Los Angeles: The Uncertain Future*, edited by D. Halle and A. A. Beveridge, 286–309. New York: Oxford University Press.

Ellen, I. G., and K. M. O'Regan. 2011. "How Low Income Neighborhoods Change: Entry, Exit, and Enhancement." *Regional Science and Urban Economics* 41 (2): 89–97.

Ellis, T. 2013. "Which Neighborhoods Will Be the Hottest in 2013?" *Redfin Special Reports*, January. https://www.redfin.com/blog/2013/01/hottest-neighborhoods-2013.html.

Enterprise, The National Housing Trust, and Reconnecting America. 2010. *Preserving Affordable Housing near Transit: Case Studies from Atlanta, Denver, Seattle and Washington, D.C.* http://www.reconnectingamerica.org/assets/Uploads/preservingaffordablehousingneartransit2010.pdf.

Ergun, N. 2004. "Gentrification in Istanbul." *Cities* 21 (5): 391–405. https://doi.org/10.1016/j.cities.2004.07.004.

Ernst, O., and B. Doucet. 2014. "A Window on the (Changing) Neighborhood: The Role of Pubs in the Contested Space of Gentrification." *Tijdschrift voor Economische en Sociale Geografie* 105 (2): 189–205.

Erwert, A. M. 2014. "Oakland, Concord among Top Cities to 'Flip to Hipsters.'" *SFGate*, February 10. http://blog.sfgate.com/ontheblock/2014/02/10/oakland-concord-among-top-cities-to-flip-to-hipsters/#20470101=0&20471103=0.

Ezema, I., A. P. Opoko, and A. A. Oluwatayo. 2016. "Urban Regeneration through State-Led, New-Build Gentrification in Lagos Inner City, Nigeria." *International Journal of Applied Environmental Sciences* 11 (1): 135–146.

Federal Transit Administration (FTA). 2013. *New and Small Starts Evaluation and Rating Process: Final Policy Guidance*. Washington, DC: United States Department of Transportation.

Ferm, J. 2016. "Preventing the Displacement of Small Businesses through Commercial Gentrification: Are Affordable Workspace Policies the Solution?" *Planning Practice and Research* 31 (4): 402–419. https://doi.org/10.1080/02697459.2016.1198546.

Fischer, C. S. 2010. "The Myth That Never Moves." March 23, 2010. *Made in America* (blog). https://madeinamericathebook.wordpress.com/2010/03/23/the-myth-that-never-moves/.

Florida, R. 2002. *The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community and Everyday Life*. New York: Basic Books.

Florida, R. 2017. *The New Urban Crisis: How Our Cities Are Increasing Inequality, Deepening Segregation, and Failing the Middle Class and What We Can Do About It*. New York: Basic Books.

Flynn, A., S. Holmberg, D. T. Warren, and F. J. Wong. 2017. *The Hidden Rules of Race: Barriers to an Inclusive Economy*. New York: Cambridge University Press.

Fong, H. 2017. *Chinatown Small Business Assessment*. Capstone project. Los Angeles: UCLA Department of Urban Planning.

Freeman, L. 2005. "Displacement or Succession? Residential Mobility in Gentrifying Neighborhoods." *Urban Affairs Review* 40 (4): 463–491.

Freeman, L. 2006. *There Goes the Hood: Views of Gentrification from the Ground Up*. Philadelphia: Temple University Press.

Freeman, L., and F. Braconi. 2004. "Gentrification and Displacement: New York City in the 1990s." *Journal of the American Planning Association* 70 (1): 39–52.

Freeman, L., A. Cassola, and T. Cai. 2016. "Displacement and Gentrification in England and Wales: A Quasi-experimental Approach." *Urban Studies* 53 (13): 2797–2814.

Fried, M. 1963. "Grieving for a Lost Home." In *The Urban Condition: People and Policy in the Metropolis*, edited by L. J. Duhl, 151–171. New York: Simon and Schuster.

Frieden, B. J., and L. B. Sagalyn. 1989. *Downtown, Inc., How America Rebuilds Cities*. Cambridge, MA: MIT Press.

Fujioka, G. 1986. "Overhauling the Residential Face of Downtown." *San Jose Mercury News (CA)*, February 23, 7P.

Fullilove, M. T. 2004. *Root Shock: How Tearing Up City Neighborhoods Hurts America, and What We Can Do About It*. New York: Ballantine Books.

Gaffney, C. 2015. "Gentrifications in Pre-Olympic Rio de Janeiro." *Urban Geography* 37 (8): 1132–1153.

Gallivan, F., E. Rose, R. Ewing, S. Hamidi, and T. Brown. 2015. *Quantifying Transit's Impact on CHG Emissions and Energy Use—The Land Use Component*. TCRP Report no. 176. Washington, DC: Transit Cooperative Research Program (TCRP).

Galster, G., and S. Peacock. 1986. "Urban Gentrification: Evaluating Alternative Indicators." *Social Indicators Research* 18 (3): 321–337. doi:10.1007/BF00286623.

Gans, H. J. 1982. *Urban Villagers*. New York: Simon and Schuster.

Ghertner, D. A. 2015. Why Gentrification Theory Fails in "Much of the World." *City* 19 (4): 552–563.

Gillespie, B. J. 2017. *Household Mobility in America: Patterns, Processes, and Outcomes*. New York: Palgrave Macmillan US.

Gladstone, D., and J. Préau. 2008. "Gentrification in Tourist Cities: Evidence from New Orleans before and after Hurricane Katrina." *Housing Policy Debate* 19 (1): 137–175. https://doi.org/10.1080/10511482.2008.9521629.

Glass, R. 1964. *London: Aspects of Change*. London: MacGibbon and Kee.

Godfrey, B. J. 1985. "Ethnic Identities and Ethnic Enclaves: The Morphogenesis of San Francisco's Hispanic Barrio." In *Yearbook. Conference of Latin Americanist Geographers*, vol. 11, 45–53. Austin: University of Texas Press.

Goetz, E. G. 2013. *New Deal Ruins: Race, Economic Justice, and Public Housing Policy*. Ithaca, NY: Cornell University Press.

Goetz, E. G., and K. Chapple. 2010. "You Gotta Move: Advancing the Debate on the Record of Dispersal." *Housing Policy Debate* 20 (2): 209–236.

Goldman, A. 2013. *The "Google Shuttle Effect": Gentrification and San Francisco's Dot com Boom 2.0*. Capstone report. Berkeley: University of California, Department of City Planning.

Goldman, M. 2010. "Speculative Urbanism and the Making of the Next World City." *International Journal of Urban and Regional Research* 35 (3): 555–581.

González, S., and P. Waley. 2013. "Traditional Retail Markets: The New Gentrification Frontier?" *Antipode* 45 (4): 965–983.

Gossen, R. 2005. "Travel Characteristics of TOD and Non-TOD Residents in the San Francisco Bay Area: Evidence from the 2000 Bay Area Travel Survey." Working paper. Oakland: Metropolitan Transportation Commission.

Gotham, K. F. 2005. "Tourism Gentrification: The Case of New Orleans' Vieux Carre (French Quarter)." *Urban Studies* 42 (7): 1099–1121. https://doi.org/10.1080/00420980500120881.

Governor's Office of Planning and Research. 2001. *The Planner's Guide to Specific Plans*. Sacramento, CA: Governor's Office of Planning and Research. http://www.opr.ca.gov/docs/specific_plans.pdf.

Grady, S., and G. LeRoy. 2006. *Making the Connection: Transit-Oriented Development and Jobs*. Good Jobs First. http://www.goodjobsfirst.org/sites/default/files/docs/pdf/makingtheconnection.pdf.

Graebner, J. 2009. "A History of the Electric Street Car." In *Street Smart: Streetcars and Cities in the 21st Century*, edited by G. Ohland and S. Poticha, 20–22. Oakland: Reconnecting America.

Graif, C. 2016. "(Un)natural Disaster: Vulnerability, Long-Distance Displacement, and the Extended Geography of Neighborhood Distress and Attainment after Katrina." *Population and Environment* 37 (3): 288–318.

Great Communities Collaborative (GCC). 2007. "Preventing Displacement Policy Fact Sheet." San Francisco: Great Communities Collaborative.

Greenwich, H., and M. Wykowski. 2012. *Transit Oriented Development That's Healthy, Green, and Just: Ensuring Transit Investment in Seattle's Rainier Valley Builds Communities Where All Families Thrive*. Seattle: Sage. http://www.reconnectingamerica.org/assets/Uploads/20120514TODHealthyGreenJust.pdf.

Grier, G. W., and E. S. Grier. 1978. *Urban Displacement: A Reconnaissance*. Memo report prepared for the Office of the Secretary, US Department of Housing and Urban Development.

Griffith, J. 2017. "Equitable Access to Public Transport: Corridor Plans for Transit-Oriented Development in Soweto, South Africa and Boston, Massachusetts Compared." *Journal of Comparative Urban Law and Policy* 1 (1): 23–63.

Grube-Cavers, A., and Z. Patterson. 2015. “Urban Rapid Rail Transit and Gentrification in Canadian Urban Centres: A Survival Analysis Approach.” *Urban Studies* 52 (1): 178–194.

Guthrie, A., and Y. Fan. 2013. “Streetcars and Recovery: An Analysis of Post–Hurricane Katrina Building Permits around New Orleans Streetcar Lines.” *Journal of Planning Education and Research* 33 (4): 381–394.

Haber, M. 2014. “Oakland: Brooklyn by the Bay.” *New York Times*, May 2, 2014. https://www.nytimes.com/2014/05/04/fashion/oakland-california-brooklyn-by-the-bay.html.

Hackworth, J., and J. Rekers. 2005. “Ethnic Packaging and Gentrification: The Case of Four Neighborhoods in Toronto.” *Urban Affairs Review* 41 (2): 211–236. https://doi.org/10.1177/1078087405280859.

Haltiwanger, J., R. Jarmin, and C. J. Krizan. 2010. “Mom-and-Pop Meet Big-Box: Complements or Substitutes?” *Journal of Urban Economics* 67 (1): 116–134. https://doi.org/10.1016/j.jue.2009.09.003.

Hammel, D. J., and E. K. Wyly. 1996. “A Model for Identifying Gentrified Areas with Census Data.” *Urban Geography* 17 (3): 248–268.

Hamnett, C. 1991. “The Blind Men and the Elephant: The Explanation of Gentrification.” *Transactions of the Institute of British Geographers*, n.s., 16 (2): 173–189. doi: 10.2307/622612.

Hamnett, C. 2003. “Gentrification and the Middle-Class Remaking of Inner London, 1961–2001.” *Urban Studies* 40 (12): 2401–2426. doi:10.1080/0042098032000136138.

Hamnett, C., and D. Whitelegg. 2007. “Loft Conversion and Gentrification in London: From Industrial to Postindustrial Land Use.” *Environment and Planning A* 39 (1): 106–124. https://doi.org/10.1068/a38474.

Hamnett, C., and P. Williams. 1980. “Social Change in London: A Study of Gentrification.” *London Journal* 6 (1): 51–66.

Hanson, S., and G. Pratt. 1995. *Gender, Work, and Space*. London: Routledge.

Harrell, R., A. Brooks, and T. Nedwick. 2009. *Subsidized Opportunities near Transit and the 50+ Population*. Washington, DC: AARP. http://www.reconnectingamerica.org/assets/Uploads/2009aarppreservingaffordability.pdf.

Harris, B. 1961. “Some Problems in the Theory of Intra-Urban Location.” *Operations Research* 9 (5): 695–721.

Harrison Institute for Public Law. 2006. *An Analysis of the Strengths and Deficiencies of Washington, D.C.’s Tenant Opportunity to Purchase Act*. Washington, DC: Georgetown

University. http://cdm16064.contentdm.oclc.org/cdm/ref/collection/p266901coll4/id/719.

Harvard Joint Center for Housing Studies. 2017a. *America's Rental Housing 2017*. Cambridge, MA: Harvard University. http://www.jchs.harvard.edu/americas-rental-housing-2017-interactive-tools.

Harvard Joint Center for Housing Studies. 2017b. *State of the Nation's Housing 2017*. Cambridge, MA: Harvard University. http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/harvard_jchs_state_of_the_nations_housing_2017.pdf.

Hata. D., and N. Hata. 2006. "Indispensable Scapegoats: Asians and Pacific Islanders in Pre-1945 Los Angeles." In *City of Promise: Race and Historical Change in Los Angeles*, edited by M. Schiesl and M. Morrall Dodge, 39–58. Claremont, CA: Regina Books.

Haughey, R., and R. Sherriff. 2010. "Challenges and Policy Options for Creating and Preserving Affordable Housing near Transit and in Other Location-Efficient Areas." What Works Collaborative. https://www.urban.org/sites/default/files/publication/26866/1001489-Challenges-and-Policy-Options-for-Creating-and-Preserving-Affordable-Housing-near-Transit-and-in-Other-Location-Efficient-Areas.PDF.

He, S. 2007. "State-Sponsored Gentrification under Market Transition: The Case of Shanghai." *Urban Affairs Review* 43 (2): 171–198.

Healy, M. 2016. *BART: The Dramatic History of the Bay Area Rapid Transit System*. Berkeley, CA: Heyday Books.

Heley, J. 2010. "The New Squirearchy and Emergent Cultures of the New Middle Classes in Rural Areas." *Journal of Rural Studies* 26 (4): 321–331.

Hepler, L. 2014. "San Jose Mayor Chuck Reed on Housing Element Affordability, Urban Villages, Density." *Silicon Valley Business Journal*, October 1, 2014. http://www.bizjournals.com/sanjose/news/2014/10/01/san-jose-sets-housing-vision-mayor-chuck-reed-on.html.

Herbert, J., and B. Stevens. 1960. "A Model for the Distribution of Residential Activities in Urban Areas." *Journal of Regional Science* 2 (2): 21–36.

Hern, M. 2016. *What a City Is For: Remaking the Politics of Displacement*. Cambridge, MA: MIT Press.

Hess, D. B., and T. M. Almeida. 2007. "Impact of Proximity to Light Rail Rapid Transit on Station-Area Property Values in Buffalo, New York." *Urban Studies* 44 (5–6): 1041–1068.

Hess, D. B., and P. A. Lombardi. 2004. "Policy Support for and Barriers to Transit-Oriented Development in the Inner City—Literature Review." *Transportation Research Record*, no. 1887:26–33.

Hickel, J. 2017. “A Guide to the Atlanta Belt Line, a Corridor for Parks, Trails and Transit.” *WhereTraveler*, July 14, 2017. https://www.wheretraveler.com/atlanta/guide-atlanta-beltline-corridor-parks-trails-and-transit.

Hickey, R. 2015. *Making Inclusionary Housing More Flexible: Four Ideas for Urban Settings*. Inclusionary Housing: A Series of Research and Policy Briefs. Washington, DC: Center for Housing Policy. https://www.honolulu.gov/rep/site/dpptod/officehousing_docs/ahr_docs/Making-Inclusionary-Housing-More-Flexible_Hickey_2015.pdf.

Hickey, R., and L. Sturtevant. 2015. *Public Land & Affordable Housing in the Washington DC Region: Best Practices and Recommendations*. Washington, DC: Urban Land Institute. http://washington.uli.org/wp-content/uploads/sites/56/2015/02/ULI_PublicLandReport_Final020215.pdf.

Hines, J. D. 2010. “Rural Gentrification as Permanent Tourism: The Creation of the ‘New’ West Archipelago as Postindustrial Cultural Space.” *Environment and Planning D: Society and Space* 28 (3): 509–525. doi:10.1068/d3309.

HNTB Corporation, Strategic Economics, and Hexagon Transportation Consultants. 2007. *San Mateo County Transit-Oriented Development Opportunity Study*. Prepared for the San Mateo County Transit District. Oakland: HNTB Corporation.

Hsieh, C. T., and E. Moretti. 2015. “Why Do Cities Matter? Local Growth and Aggregate Growth.” NBER Working Paper no. w21154. Washington, DC: National Bureau of Economic Research.

Huang, Y., and W. A. Clark. 2002. “Housing Tenure Choice in Transitional Urban China: A Multilevel Analysis.” *Urban Studies* 39 (1): 7–32.

Huang, Y., S. J. South, and A. Spring. 2017. “Racial Differences in Neighborhood Attainment: The Contributions of Interneighborhood Migration and In Situ Change.” *Demography* 54 (5): 1819–1843.

Hunt, J. D., and J. E. Abraham. 2005. “Design and Implementation of PECAS: A Generalised System for Allocating Economic Production, Exchange and Consumption Quantities.” In *Integrated Land-Use and Transportation Models: Behavioural Foundations*, edited by M. E. H. Gosselin and S. T. Doherty, 253–273. Bingley, UK: Emerald Group Publishing.

Hurst, N. B., and S. E. West. 2014. “Public Transit and Urban Redevelopment: The Effect of Light Rail Transit on Land Use in Minneapolis, Minnesota.” *Regional Science and Urban Economics* 46:57–72.

Hwang, J., and R. J. Sampson. 2014. “Divergent Pathways of Gentrification: Racial Inequality and the Social Order of Renewal in Chicago Neighborhoods.” *American Sociological Review* 79 (4): 726–751.

Hyra, D. S. 2008. *The New Urban Renewal: The Economic Transformation of Harlem and Bronzeville*. Chicago: University of Chicago Press.

Hyra, D. S. 2017. *Race, Class, and Politics in the Cappuccino City*. Chicago: University of Chicago Press.

ICF International. 2014. *GCC Evaluation 2014 Interim Report: Moving Forward to Implementation*. San Francisco: Great Communities Collaborative.

Immergluck, D. 2009. "Large Redevelopment Initiatives, Housing Values and Gentrification: The Case of the Atlanta Beltline." *Urban Studies* 46 (8): 1723–1745.

Inam, A. 2011. "Smart Growth: A Critical Review of the State of the Art." In *Companion to Urban Design*, edited by T. Banerjee and A. Loukaitou-Sideris, 632–643. London: Routledge.

Ingvardson, J. B., and O. A. Nielsen. 2017. "Effects of Bus and Rail Rapid Transit Systems—an International Review." *Transport Reviews* 38 (1): 96–116. doi:0.1080/01441647.2017.1301594.

Isard, W. 1951. "Interregional and Regional Input-Output Analysis: A Model of a Space-Economy." *Review of Economics and Statistics* 33 (4): 318–328.

İslam, T. 2009. "Implications of an Urban Renewal Based State-Led Gentrification Process in a Roma Neighborhood In Istanbul." Unpublished paper.

Jackson, K. T. 1987. *Crabgrass Frontier: The Suburbanization of the United States*. Oxford: Oxford University Press.

Janoschka, M., J. Sequera, and L. Salinas. 2014. "Gentrification in Spain and Latin America—a Critical Dialogue." *International Journal of Urban and Regional Research* 38 (4): 1234–1265. https://doi.org/10.1111/1468-2427.12030.

Jargowsky, P. A. 1997. *Poverty and Place: Ghettos, Barrios, and the American City*. New York: Russell Sage Foundation.

Jarvis, H. 1999. "Identifying the Relative Mobility Prospects of a Variety of Household Employment Structures, 1981–1991." *Environment and Planning A* 31 (6): 1031–1046.

Jarzab, J. T., J. Lightbody, and E. Maeda. 2002. "Characteristics of Bus Rapid Transit Projects: An Overview." *Journal of Public Transportation* 5 (2): 32–46.

John, P., K. Dowding, and S. Biggs. 1995. "Residential Mobility in London: A Micro-level Test of the Behavioural Assumptions of the Tiebout Model." *British Journal of Political Science* 25 (3): 379–397.

Johnson, A. 2003. "Bus Transit and Land Use: Illuminating the Interaction." *Journal of Public Transportation* 6 (4): 21–39.

Johnston, R. A., and M. C. McCoy. 2006. *Assessment of Integrated Transportation/Land Use Models*. Davis, CA: UC Davis Information Center for the Environment.

Jun, M. 2012. "Redistributive Effects of Bus Rapid Transit (BRT) on Development Patterns and Property Values in Seoul, Korea." *Transport Policy* 19 (1): 85–92.

Kahn, M. 2007. "Gentrification Trends in New Transit-Oriented Communities: Evidence from 14 Cities That Expanded and Built Rail Transit Systems." *Real Estate Economics* 35 (2): 155–182.

Kan, K. 1999. "Expected and Unexpected Residential Mobility." *Journal of Urban Economics* 45 (1): 72–96.

Karsten, L. 2014. "From Yuppies to Yupps: Family Gentrifiers Consuming Spaces and Re-inventing Cities." *Tijdschrift Voor Economische En Sociale Geografie* 105 (2): 175–188. https://doi.org/10.1111/tesg.12055.

Kassens-Noor, E., C. Gaffney, J. Messina, and E. Phillips. 2016. "Olympic Transport Legacies." *Journal of Planning Education and Research* 38 (1): 13–24.

Katz, P. 1994. *The New Urbanism: Towards an Architecture of Community*. New York: McGraw-Hill.

Kay, A. I., R. B. Nolan, and S. DiPetrillo. 2014. "Residential Property Valuations near Transit Stations with Transit-Oriented Development." *Journal of Transport Geography* 39:131–140.

Keating, W. D., M. Teitz, and A. Skaburskis. 1998. *Rent Control*. New Brunswick, NJ: Center for Urban Policy Research.

Kelbaugh, D. 1989. *The Pedestrian Pocket Book: A New Suburban Design Strategy*. New York: Princeton Architectural Press.

Kennedy, M., and P. Leonard. 2001. *Dealing with Neighborhood Change: A Primer on Gentrification and Policy Choices*. Brookings Institution and PolicyLink. https://www.brookings.edu/wp-content/uploads/2016/06/gentrification.pdf.

Khouri, A. 2017. "Downtown Los Angeles Hasn't Seen This Much Construction since the 1920s." *Los Angeles Times*, January 8, 2017. www.latimes.com/business/la-fi-downtown-boom-20161130-story.html.

Kim, E. 2014. "With Jia, Chinatown Gets a $93 Million Apartment Complex." *Downtown News*, March 3, 2014. http://www.ladowntownnews.com/news/with-jia-chinatown-gets-a-million-apartment-complex/article_9fc95a96-a0d4-11e3-b308-0019bb2963f4.html.

Kim, J. H. 2014. "Residential and Job Mobility: Interregional Variation and Their Interplay in US Metropolitan Areas." *Urban Studies* 51 (13): 2863–2879.

Kingsley, G. T., A. Jordan, and W. Traynor. 2012. "Addressing Residential Instability: Options for Cities and Community Initiatives." *Cityscape* 14 (3): 161–184.

Kloosterman, R., J. Van Der Leun, and J. Rath. 1999. "Mixed Embeddedness: (In)formal Economic Activities and Immigrant Businesses in the Netherlands." *International Journal of Urban and Regional Research* 23 (2): 252–266.

Kneebone, E., and A. Berube. 2013. *Confronting Suburban Poverty in America*. Washington, DC: Brookings Institution Press.

Knowles, R. D. 2012. "Transit Oriented Development in Copenhagen Denmark: From the Finger Plan to Orestad." *Journal of Transport Geography* 22:251–261.

Kolko, J. 2017. "Seattle Climbs but Austin Sprawls: The Myth of the Return to Cities." *New York Times*, May 22, 2017. https://www.nytimes.com/2017/05/22/upshot/seattle-climbs-but-austin-sprawls-the-myth-of-the-return-to-cities.html.

Kronenberg, K., and M. Carree. 2012. "On the Move: Determinants of Job and Residential Mobility in Different Sectors." *Urban Studies* 49 (16): 3679–3698.

Kutzman, D., and T. Farragher. 1988. "Physical Transformation Has Come by Redevelopment." *San Jose Mercury News (CA)*, August 21, 1A.

Landis, J. D. 2016. "Tracking and Explaining Neighborhood Socioeconomic Change in US Metropolitan Areas between 1990 and 2010." *Housing Policy Debate* 26 (1): 2–52.

Lane, M., and L. Seifel. 2015. *Untapped Resources: Potential Bay Area Sites for Affordable Transit-Oriented Development*. San Francisco: Non Profit Housing Association of Northern California. http://nonprofithousing.org/wp-content/uploads/FINAL_Untapped-Resources-Full-Report.pdf.

Laska, S., J. M. Seaman, and D. R. McSeveney. 1982. "Inner-City Reinvestment: Neighborhood Characteristics and Spatial Patterns over Time." *Urban Studies* 19 (2): 155–165.

Lee, B. A., R. S. Oropesa, and J. W. Kanan. 1994. "Neighborhood Context and Residential Mobility." *Demography* 31 (2): 249–270.

Lee, D. B. 1973. "Requiem for Large-Scale Models." *Journal of the American Institute of Planners* 39 (3): 163–178.

Lee, D. B. 1994. "Retrospective on Large-Scale Urban Models." *Journal of the American Planning Association* 60 (1): 35–40.

Lees, L. 2000. "A Reappraisal of Gentrification: Towards a 'Geography of Gentrification.' " *Progress in Human Geography* 24 (3): 389–408. doi:10.1191/030913200701540483.

Lees, L., H. B. Shin, and E. López-Morales. 2016a. *Planetary Gentrification*. Hoboken, NJ: John Wiley and Sons.

Lees, L., H. B. Shin, and E. López-Morales, eds. 2016b. *Global Gentrifications: Uneven Development and Displacement*. Bristol: Policy Press.

Lees, L., T. Slater, and E. K. Wyly. 2008. *Gentrification*. New York: Routledge/Taylor and Francis Group.

Leitner, H., and E. Sheppard. 2016. "Provincializing Critical Urban Theory: Extending the Ecosystem of Possibilities." *International Journal of Urban and Regional Research* 40 (1): 228–235.

Lemanski, C. 2014. "Hybrid Gentrification in South Africa: Theorising across Southern and Northern Cities." *Urban Studies* 51 (14): 2943–2960.

Leontief, W. W. 1951. "Input-Output Economics," Scientific American 185 (4): 15–21.

Ley, D. 1996. *The New Middle Class and the Remaking of the Central City*. Oxford Geographical and Environmental Studies. Oxford: Oxford University Press.

Ley, D., and C. Dobson. 2008. "Are There Limits to Gentrification? The Contexts of Impeded Gentrification in Vancouver." *Urban Studies* 45 (12): 2471–2498. https://doi.org/10.1177/0042098008097103.

Li, S. M. 2004. "Life Course and Residential Mobility in Beijing, China." *Environment and Planning A* 36 (1): 27–43.

Li, S. M., and Y. L. Song. 2009. "Redevelopment, Displacement, Housing Conditions, and Residential Satisfaction: A Study of Shanghai." *Environment and Planning A* 41 (5): 1090–1108.

Li, S. M., D. Wang, and F. Y. T. Law. 2005. "Residential Mobility in a Changing Housing System: Guangzhou, China, 1980–2001." *Urban Geography* 26 (7): 627–639.

Lim, H., J. Kim, C. Potter, and W. Bae. 2013. "Urban Regeneration and Gentrification: Land Use Impacts of the Cheonggye Stream Restoration Project on the [*sic*] Seoul's Central Business District." *Habitat International* 39:192–200. https://doi.org/10.1016/j.habitatint.2012.12.004.

Litman, T. A. 2009. *Parking Requirement Impacts on Housing Affordability*. Victoria: Victoria Transport Policy Institute.

Litman, T. A. 2014. *Autonomous Vehicle Implementation Predictions*. Victoria: Victoria Transport Policy Institute.

Litman, T. A. 2017. *Economic Value of Walkability*. Victoria: Victoria Transport Policy Institute. http://www.vtpi.org/walkability.pdf.

Logan, J. R., and H. Molotch. (1987) 2007. *Urban Fortunes: The Political Economy of Place*. Berkeley: University of California Press.

López-Morales, E. 2016. "Gentrification in Santiago, Chile: A Property-Led Process of Dispossession and Exclusion." *Urban Geography* 37 (8): 1109–1131.

López-Morales, E., H. B. Shin, and L. Lees. 2016. “Latin American Gentrifications.” *Urban Geography* 37 (8): 1091–1108.

Los Angeles City Planning Department (LACDP). 2015. Authors’ interview, April 15, 2015.

Los Angeles County Metropolitan Transportation Authority (LA Metro). 2015. “Metro Joint Development Program: Policies and Process.” http://media.metro.net/projects_studies/joint_development/images/JDP_policies_process_2015-07.pdf.

Los Angeles County Metropolitan Transportation Authority (LA Metro). 2017. “Metro Interactive Estimated Ridership Stats.” isotp.metro.net/MetroRidership/Index.aspx.

Loukaitou-Sideris, A. 2002. “Regeneration of Urban Commercial Strips: Ethnicity and Space in Three Los Angeles Neighborhoods.” *Journal of Architectural and Planning Research* 19 (4): 334–350.

Loukaitou-Sideris, A. 2007. “TODs for Southern California: Challenges and Prospects.” In *The State of the Region 2007*, edited by P. Chang, 56–66. Los Angeles: Southern California Association of Governments.

Loukaitou-Sideris, A. 2010. “A New-Found Popularity for TODs? Lessons from Southern California.” *Journal of Urban Design* 15 (1): 49–68.

Loukaitou-Sideris, A., and T. Banerjee. 1996. “There Is No There, There: Or Why Neighborhoods Don’t Readily Develop around Light-Rail Transit Stations.” *Access* 9:2–6.

Loukaitou-Sideris, A., and T. Banerjee. 1998. *Urban Design Downtown: Poetics and Politics of Form*. Berkeley: University of California Press.

Loukaitou-Sideris, A., and T. Banerjee. 2000. “The Blue Line Blues: Why the Vision of Transit Village May Not Materialize Despite Impressive Growth in Transit Ridership.” *Journal of Urban Design* 5 (2): 101–125.

Loukaitou-Sideris, A., and G. Sansbury. 1995. “Lost Streets of Bunker Hill.” *California History* 74 (4): 394–407, 448–449.

Lowry, I. 1964. “A Model of Metropolis.” Memorandum. Santa Monica, CA: RAND Corporation.

Lubell, J. 2016. “Preserving and Expanding Affordability in Neighborhoods Experiencing Rising Rents and Property Values.” *Cityscape* 18 (3): 131–150.

Luckey, K. S. 2012. “Assessing the Effectiveness of Approaches to the Allocation of Low-Income Housing Tax Credits in Proximity to Rail Transit.” Transportation Research Board: TRID Database. http://trid.trb.org/view.aspx?id=1129506.

Lynch, K. 1961. *The Image of the City*. Cambridge, MA: MIT Press.

Ma, L., R. Ye, and H. Titheridge. 2014. "Capitalization Effects of Rail Transit and Bus Rapid Transit on Residential Property Values in a Booming Economy." *Transportation Research Record*, no. 2451:139–148. doi:10.3141/2451-16.

Maciag, M. 2015. "Gentrification in America Report." *Governing Magazine*. http://www.governing.com/gov-data/census/gentrification-in-cities-governing-report.html.

Mai, R., and B. Chen. 2013. *Chinatown Los Angeles*. Report. Los Angeles: UCLA Department of Urban Planning. http://www.aasc.ucla.edu/research/pdfs/statect.pdf.

Marcus, J., and M. Zuk. 2017. *Displacement in San Mateo County, California: Consequences for Housing, Neighborhoods, Quality of Life, and Health*. IGS Research Brief. Berkeley: University of California, Berkeley.

Marcuse, P. 1986. "Abandonment, Gentrification, and Displacement: The Linkages in New York City." In *Gentrification of the City*, edited by N. Smith and P. Williams, 153–177. London: Routledge.

Mare, R. D., and E. E. Bruch. 2003. *Spatial Inequality, Neighborhood Mobility, and Residential Segregation*. Los Angeles: California Center for Population Research.

Markusen, A., and R. Bedoya. 2016. "Political Economy, Displacement, Race, and Placekeeping: A Reframing of the Gentrification Debate." Unpublished paper.

Martin, A. J. 2012. "After Foreclosure: The Social and Spatial Reconstruction of Everyday Lives in the San Francisco Bay Area." PhD diss., University of California, Berkeley.

Massey, D. S., and N. A. Denton. 1993. *American Apartheid: Segregation and the Making of the Underclass*. Cambridge, MA: Harvard University Press.

Maurrasse, D. 2006. *Listening to Harlem: Gentrification, Community, and Business*. New York: Routledge.

McDonald, P. R. 2013. "Hollywood's Urban Cleansing." *LA Weekly*, January 3, 2013. http://www.laweekly.com/news/hollywoods-urban-cleansing-2612554.

McGeehan, J. 2017. "Who Is Winning and Losing in the Boyle Heights Gentrification War." *LA Weekly*, July 18, 2017. http://www.laweekly.com/news/boyle-heights-gentrification-war-shows-no-signs-of-stopping-8438794.

McKinnish, T., R. Walsh, and T. K. White. 2010. "Who Gentrifies Low-Income Neighborhoods?" *Journal of Urban Economics* 67 (2): 180–193.

Medina, J. 2013. "Los Angeles Neighborhood Tries to Change, but Avoid the Pitfalls." *New York Times*, August 17, 2013. http://www.nytimes.com/2013/08/18/us/los-angeles-neighborhood-tries-to-change-but-avoid-the-pitfalls.html?mcubz=0.

Melchert, D., and J. L. Naroff. 1987. "Central City Revitalization: A Predictive Model." *Real Estate Economics* 15 (1): 664–683. doi:10.1111/1540-6229.00409.

Mele, C. 2000. *Selling the Lower East Side: Culture, Real Estate, and Resistance in New York City*. Minneapolis: University of Minnesota Press.

Meltzer, R. 2016. "Gentrification and Small Business: Threat or Opportunity?" *Cityscape* 18 (3): 57–85.

Meltzer, R., and S. Capperis. 2016. "Neighbourhood Differences in Retail Turnover: Evidence from New York City." *Urban Studies* 54 (13): 3022–3057. https://doi.org/10.1177/0042098016661268.

Meltzer, R., and P. Ghorbani. 2017. "Does Gentrification Increase Employment Opportunities in Low-Income Neighborhoods?" *Regional Science and Urban Economics* 66:52–73. https://doi.org/10.1016/j.regsciurbeco.2017.06.002.

Meltzer, R., and J. Schuetz. 2012. "Bodegas or Bagel Shops? Neighborhood Differences in Retail and Household Services." *Economic Development Quarterly* 26 (1): 73–94. https://doi.org/10.1177/0891242411430328.

Metropolitan Area Planning Council (MAPC). 2015. *Managing Neighborhood Change: Anti-displacement Strategies Toolkit*. Boston: Metropolitan Area Planning Council. http://www.mapc.org/neighborhood-change.

Millard-Ball, A. 2002. "Gentrification in a Residential Mobility Framework: Social Change, Tenure Change and Chains of Moves in Stockholm." *Housing Studies* 17 (6): 833–856.

Miller, S. 1987. *The Peninsula Commute Story*. http://www.askmar.com/Railroad/Peninsula%201987%20Commute.pdf.

Minton, J. 1997. "Rent Control: Can and Should It Be Used to Combat Gentrification?" *Ohio Northern University Law Review* 23:823–862.

Miranda, C. 2016. "Out! Boyle Heights Activists Say White Art Elites Are Ruining the Neighborhood…but It's Complicated." *Los Angeles Times*, October 14, 2016. http://www.latimes.com/entertainment/arts/miranda/la-et-cam-art-gentrification-boyle-heights-20161014-snap-story.html.

Mollenkopf, J. 1983. *The Contested City*. Princeton, NJ: Princeton University Press.

Molloy, R., C. L. Smith, and A. K. Wozniak. 2014. "Declining Migration within the US: The Role of the Labor Market." NBER Working Paper no. w20065. Washington, DC: National Bureau of Economic Research.

Monkkonen, P. 2016. *Understanding and Challenging Opposition to Housing Construction in California's Urban Areas*. White paper. Sacramento: University of California Center Sacramento.

Montero, S. 2017. "Study Tours and Inter-city Policy Learning: Mobilizing Bogotá's Transportation Policies in Guadalajara." *Environment and Planning A* 49 (2): 332–350.

Montojo, N., and B. McElvain. 2015. *MacArthur Accessibility and Investment in North Oakland*. Berkeley, CA: Center for Community Innovation. http://iurd.berkeley.edu/uploads/MacArthur_Final.pdf.

Monument Impact. 2014. *Monument Community Narrative*. Concord, CA: Monument Impact.

Moore, K. 2009. "Gentrification in Black Face? The Return of the Black Middle Class to Urban Neighborhoods." *Urban Geography* 30 (2): 118–142. doi:10.2747/0272-3638.30.2.118.

Moore, R. D. 2015. "Gentrification and Displacement: The Impacts of Mass Transit in Bangkok." *Urban Policy and Research* 33 (4): 472–489.

Morrison, P. S., and W. A. Clark. 2011. "Internal Migration and Employment: Macro Flows and Micro Motives." *Environment and Planning A* 43 (8): 1948–1964.

Mulley, C., L. Ma, G. Clifton, B. Yen, and M. Burke. 2016. "Residential Property Value Impacts of Proximity to Transport Infrastructure: An Investigation of Bus Rapid Transit and Heavy Rail Networks in Brisbane, Australia." *Journal of Transport Geography* 54:41–52.

Mullins, J. A., E. Washington, and R. W. Stokes. 1990. "Land Use Impacts of the Houston Transitway System." *Transportation Research Record*, no. 1237:29–38.

Muñoz-Raskin, R. 2010. "Walking Accessibility to Bus Rapid Transit: Does It Affect Property Values? The Case of Bogotá, Colombia." *Transport Policy* 17 (2): 72–84.

Murphy, A. K., and S. W. Allard. 2015. "The Changing Geography of Poverty." *Focus* 32 (1): 19–23.

Musterd, S., W. P. Van Gent, M. Das, and J. Latten. 2016. "Adaptive Behaviour in Urban Space: Residential Mobility in Response to Social Distance." *Urban Studies* 53 (2): 227–246.

Nelson, A. C. 2011. *The New California Dream: How Demographic and Economic Trends May Shape the Housing Market*. Los Angeles: Urban Land Institute.

Neumark, D., J. Zhang, and S. Ciccarella. 2008. "The Effects of Wal-Mart on Local Labor Markets." *Journal of Urban Economics* 63 (2): 405–430. https://doi.org/10.1016/j.jue.2007.07.004.

Newman, K., and E. K. Wyly. 2006. "The Right to Stay Put, Revisited: Gentrification and Resistance to Displacement in New York City." *Urban Studies* 43 (1): 23–57. doi:10.1080/00420980500388710.

Newman, S. J., and M. S. Owen. 1982. "Residential Displacement: Extent, Nature, and Effects." *Journal of Social Issues* 38 (3): 135–148. doi:10.1111/j.1540-4560.1982.tb01775.x.

Newmark, G. L., and P. M. Haas. 2015. *Income, Location Efficiency, and VMT: Affordable Housing as a Climate Strategy*. Chicago: Center for Neighborhood Technology. http://www.cnt.org/publications/income-location-efficiency-and-vmt-affordable-housing-as-a-climate-strategy.

Nilsson, I., and E. Delmelle. 2018. “Transit Investments and Neighborhood Change: On the Likelihood of Change.” *Journal of Transport Geography* 66:167–179.

Nolte, A. 2016. “Political Infrastructure and the Politics of Infrastructure.” *City* 20 (3): 441–454.

Northern California Community Loan Fund (NCCLF). 2016. “NCCLF Announces PRO Oakland, a Partnership Mitigating Small Business and Nonprofit Disruption during Bus Rapid Transit Construction in East Oakland.” *Northern California Community Loan Fund* (blog), April 18, 2016. https://www.ncclf.org/ncclf-announces-pro-oakland-a-partnership-mitigating-small-business-and-nonprofit-disruption-during-bus-rapid-transit-construction-in-east-oakland/.

Novoa, J. 1985. “In the Path of a Museum: Confusion.” *San Jose Mercury News (CA)*, August 29, 1985, 1A.

Nunow, A. A. 2012. “The Displacement and Dispossession of the Aweer (Boni) Community: The Kenya Government Dilemma on the New Port of Lamu.” Unpublished paper.

Oberg, A., and L. Nelson. 2010. “Rural Gentrification and Linked Migration in the United States.” *Journal of Rural Studies* 26 (4): 343–352. doi:10.1016/j.jrurstud.2010.06.003.

Ong, P., C. Pech, and R. Ray. 2014. *TOD Impacts on Businesses in Four Asian American Neighborhoods*. Los Angeles: UCLA Center for the Study of Inequality.

Organisation for Economic Cooperation and Development (OECD). 2018. *Divided Cities: Understanding Intra-urban Inequalities*. Paris: OECD Publishing. http://dx.doi.org/10.1787/9789264300385-en.

Orta, M. 2017. “MirARTe, Resistance, and Life in East Los Angeles: A Comparative Study of Creative Resistance in East Los Angeles, California.” B.A. thesis, Georgetown University.

O’Shaughnessy, M. M. 1921. *The Municipal Railway of San Francisco, 1912–1921*. San Francisco: J. A. Prudhomme.

Owens, A. 2012. “Neighborhoods on the Rise: A Typology of Neighborhoods Experiencing Socioeconomic Ascent.” *City and Community* 11 (4): 345–369. doi:10.1111/j.1540-6040.2012.01412.x.

Özdemirli, Y. K. 2014. Alternative Strategies for Urban Redevelopment: A Case Study in a Squatter Housing Neighborhood of Ankara. *Cities* 38:37–46.

Özdemirli, Y. K. 2015. "An International Comparison of Public Value Recapture Strategies." Unpublished paper.

Pagliara, F., and E. Papa. 2011. "Urban Rail Systems Investments: An Analysis of the Impacts on Property Values and Residents' Location." *Journal of Transport Geography* 19 (2): 200–211.

Painter, G., and K. Lee. 2009. "Housing Tenure Transitions of Older Households: Life Cycle, Demographic, and Familial Factors." *Regional Science and Urban Economics* 39 (6): 749–760.

Pais, J., S. J. South, and K. Crowder. 2012. "Metropolitan Heterogeneity and Minority Neighborhood Attainment: Spatial Assimilation or Place Stratification?" *Social Problems* 59 (2): 258–281.

Park, R. E., ed. 1925. *The City: Suggestions of Investigation of Human Behavior in the Urban Environment*. Chicago: University of Chicago Press.

Park, R. E., ed. 1936. "Human Ecology." *American Journal of Sociology* 42 (1): 1–15. doi:10.2307/2768859.

Parsons Brinkerhoff. 2001. *The Effect of Rail Transit on Property Values: A Summary of Studies*. Reconnecting America. http://www.reconnectingamerica.org/assets/Uploads/bestpractice162.pdf.

Pastor, M. 2017. "Gentrification Is about Power, so What's Community Got to Do with It?" KCETLink, July 31, 2017. https://www.kcet.org/shows/city-rising/gentrification-is-about-power-so-whats-community-got-to-do-with-it.

Pattaroni, L., V. Kaufmann, and M. Thomas. 2012. "The Dynamics of Multifaceted Gentrification: A Comparative Analysis of the Trajectories of Six Neighbourhoods in the Île-de-France Region." *International Journal of Urban and Regional Research* 36 (6): 1223–1241.

Pattillo, M. 2008. *Black on the Block: The Politics of Race and Class in the City*. Chicago: University of Chicago Press.

Pedrazzini, Y., S. Vincent-Geslin, and A. Thorer. 2014. "Violence of Urbanization, Poor Neighbourhoods and Large-Scale Projects: Lessons from Addis Ababa, Ethiopia." *Built Environment* 40 (3): 394–407.

Percival, T. 2009. *Commercial Gentrification in a Global City: The Changing Nature of Retail Markets in East London*. Leeds: School of Geography, University of Leeds.

Perk, V. A., and M. Catala. 2009. *Land Use Impacts of Bus Rapid Transit: Effects of BRT Station Proximity on Property Values along the Pittsburgh Martin Luther King, Jr. East Busway*. Washington, DC: Federal Transit Administration. http://www.nbrti.org/docs/pdf/Property%20Value%20Impacts%20of%20BRT_NBRTI.pdf.

Perry, C. A. 1929. "The Neighborhood Unit: A Scheme of Arrangement for the Family-Life Community." In *The Regional Plan of New York and Its Environs*, Regional Plan Association, Monograph 1, Volume 7. New York: Arno Press.

Peters, D. 2009. "The Renaissance of Inner-City Rail Station Areas as a Key Element in the Contemporary Dynamics of Urban Restructuring." *Critical Planning* 15:162–185.

Phillips, D., L. J. Flores, and J. Henderson. 2015. *Development without Displacement: Resisting Gentrification in the Bay Area*. Causa Justa: Just Cause. https://cjjc.org/wp-content/uploads/2015/11/development-without-displacement.pdf.

Phillips, M. 2004. "Other Geographies of Gentrification." *Progress in Human Geography* 28 (1): 5–30. doi:10.1191/0309132504ph458oa.

Pinderhughes, H., R. Davis, and M. Williams. 2015. *Adverse Community Experiences and Resilience: A Framework for Addressing and Preventing Community Trauma*. Oakland: Prevention Institute.

Plowman, J. 2014. *What Happens to Retail When Neighborhoods Gentrify? Evidence from California Metro Areas*. Report. Berkeley: University of California, Berkeley.

PMI Properties. 2015. "New Retail Pops Up in East Hollywood to Follow the Gentrifying Residential Renovations." PMI, September 20, 2015. https://pmicreativespaces.com/2015/09/20/new-retail-pops-up-in-east-hollywood-to-follow-the-gentrifying-residential-renovations/.

Pojani, D., and D. Stead. 2014. "Ideas, Interests, and Institutions: Explaining Dutch Transit-Oriented Development Challenges." *Environment and Planning A* 46 (10): 2401–2418.

PolicyLink. 2008. "Equitable Development Toolkit: Transit Oriented Development." PolicyLink. http://www.policylink.org/sites/default/files/transit-oriented-development_0.pdf.

PolicyLink. 2013. "Business Impact Mitigations for Transit Projects." PolicyLink. https://www.policylink.org/sites/default/files/FINAL%20PolicyLink%20Business%20Impact%20Mitigation%20Strategies_0.pdf.

Pollack, S., B. Bluestone, and C. Billingham. 2010. *Maintaining Diversity in America's Transit-Rich Neighborhoods: Tools for Equitable Neighborhood Change*. Boston: Northeastern University, Dukakis Center for Urban and Regional Policy.

Polyzoides, S. 2011. "Notes on Transit-Oriented Development." In *Companion to Urban Design*, edited by T. Banerjee and A. Loukaitou-Sideris, 644–653. London: Routledge.

Powell, J. A. 1999. "Race, Poverty, and Urban Sprawl: Access to Opportunities through Regional Strategies." *Forum for Social Economics* 28 (2): 1–20.

Powell, J. A. 2008. "Post-racialism or Targeted Universalism." *Denver University Law Review* 86:785–806.

Powell, J. A., and M. L. Spencer. 2002. "Giving Them the Old One-Two: Gentrification and the K.O. of Impoverished Urban Dwellers of Color." *Howard Law Journal* 46:433–490.

Putman. S. H. 1983. *Integrated Urban Models*. London: Pion.

Ratner, K. A., and A. R. Goetz. 2013. "The Reshaping of Land Use and Urban Form in Denver through Transit-Oriented Development." *Cities* 30:31–46.

Rayle, L. 2015. "Investigating the Connection between Transit-Oriented Development and Displacement: Four Hypotheses." *Housing Policy Debate* 25 (3): 531–548.

Redwood City. 2011. *The Downtown Precise Plan*. http://www.redwoodcity.org/home/showdocument?id=9985.

Redwood City. 2014. "2014 State of the City Movie: 'Where Is Deadwood City?' " State of the City address. http://www.redwoodcity.org/government/council/stateofcity.html.

Redwood City. n.d. http://www.redwoodcity.org/about-the-city/history (accessed August 29, 2017).

Redwood City Voice. n.d. "Historical Blog Series: Caltrain: A Ride to the Past." https://medium.com/redwood-city-voice/caltrain-a-ride-to-the-past-94176aa89455 (accessed August 29, 2017).

Reese, E., G. Deverteuil, and L. Thach. 2010. " 'Weak-Center' Gentrification and the Contradictions of Containment: Deconcentrating Poverty in Downtown Los Angeles." *International Journal of Urban and Regional Research* 34 (2): 310–327.

Renne, J. 2005. "Transit Oriented Development: Measuring Benefits, Analyzing Trends, and Evaluating Policy." PhD diss., Graduate Program in Urban Planning and Policy Development, Rutgers University.

Rérat, P., and L. Lees. 2011. "Spatial Capital, Gentrification and Mobility: Evidence from Swiss Core Cities." *Transactions of the Institute of British Geographers* 36 (1): 126–142.

Revington, N. 2015. "Gentrification, Transit, and Land Use: Moving beyond Neoclassical Theory." *Geography Compass* 9 (3): 152–163.

Richmond, J. 2005. *Transport of Delight: The Mythical Conception of Rail Transit in Los Angeles*. Akron, OH: University of Akron Press.

Riley, J. 2018. "The Most Expensive U.S. Metro Areas for Home Buyers." *Financial Advisor Magazine*, March 7, 2018. https://www.fa-mag.com/news/salary-you-would-need-to-live-in-these-top-metropolitan-cities-37523.html.

Rizzo, A. 2014. "Rapid Urban Development and National Master Planning in Arab Gulf Countries: Qatar as a Case Study." *Cities* 39:50–57.

Robinson, J. 2016. Starting from Anywhere, Making Connections: Globalizing Urban Theory. *Eurasian Geography and Economics* 57 (4–5): 643–657.

Robinson, T. 1995. "Gentrification and Grassroots Resistance in San Francisco's Tenderloin." *Urban Affairs Review* 30 (4): 483–513. doi: 10.1177/107808749503000401.

Rocha, D. 2014. *Diridon Station Area Plan Memorandum*. http://sanjoseca.gov/DocumentCenter/View/31920.

Rodriguez, D., and F. Targa. 2004. "Value of Accessibility to Bogotá's Bus Rapid Transit System." *Transport Reviews* 24 (5): 587–610. doi:10.1080/0144164042000195081.

Rodríguez, D. A., and C. H. Mojica. 2009. "Capitalization of BRT Network Expansion Effects into Prices of Non-expansion Areas." *Transportation Research Part A: Policy and Practice* 43 (5): 560–571. doi:10. 1016/j.tra.2009.02.003.

Rodríguez, M. C., and M. M. Virgilio. 2016. "A City for All? Public Policy and Resistance to Gentrification in the Southern Neighborhoods of Buenos Aires." *Urban Geography* 37 (8): 1215–1234.

Romo, R. 1983. *Past Los Angeles: History of a Barrio*. Austin: University of Texas Press.

Rose, D. 1984. "Rethinking Gentrification: Beyond the Uneven Development of Marxist Urban Theory." *Environment and Planning D*: *Society and Space* 2 (1): 47–74.

Rosenbaum, E., and S. Friedman. 2001. "Mobility Incidence and Turnover as Components of Neighborhood Racial and Ethnic Change in New York City, 1991 to 1996." *Journal of Housing Research* 12 (1): 27–53.

Royal Institution of Chartered Surveyors. 2002. *Land Value and Public Transport*. London: Royal Institution of Chartered Surveyors.

Sampat, P. 2010. "Special Economic Zones in India: Reconfiguring Displacement in a Neoliberal Order?" *City and Society* 22 (2): 166–182.

Sampson, R. 2012. *Great American City: Chicago and the Enduring Neighborhood Effect*. Chicago: University of Chicago Press.

Sandoval, G. 2017. "Protecting the Barrio: Gentrification, Neighborhood-Resistance, and Cultural Identity." Unpublished paper.

San Francisco Bay Area Metropolitan Transportation Commission (MTC). 2012a. "Resolution No. 4035."

San Francisco Bay Area Metropolitan Transportation Commission (MTC). 2012b. "Resolution No. 4035, Appendix A6: PDA Investment & Growth Strategy."

San Francisco Bay Area Metropolitan Transportation Commission (MTC). 2012c. “Resolution No. 4035, Appendix A: Cycle 2 / OBAG 1 Program Project Selection Criteria and Programming Policy.”

San Francisco Chronicle. 2016. “HUD Agrees to Offer Residents in Areas with High Displacement Priority in Federal Housing.” *San Francisco Chronicle*, September 23. http://www.sfchronicle.com/opinion/editorials/article/HUD-is-right-to-allow-SF-try-a-neighborhood-9242954.php.

San Francisco Municipal Transportation Agency. n.d. *Muni's History*. San Francisco Municipal Transportation Agency. https://www.sfmta.com/about-sfmta/our-history-and-fleet/muni-history (accessed September 14, 2017).

Santa Clara County Transit District. 1983. *Final Environmental Impact Statement on the Guadalupe Corridor Transportation Project*. Cities of San Jose and Santa Clara, CA: Santa Clara County Transit District.

Santa Clara Valley Transportation Authority. 2005. *Santa Clara Valley Transportation Authority History*. San Jose, CA: Santa Clara Valley Transportation Authority. http://www.vta.org/sfc/servlet.shepherd/version/download/068A0000001FaML.

Santa Clara Valley Transportation Authority. n.d. *Transit-Oriented Development Program*. http://www.vta.org/projects-and-programs/transit-oriented-development (accessed October 29, 2017).

Santos, E. 2011. *Pioneer in BRT and Urban Planning*. Saarbrucken: Lambert Academic Press.

Sassen, S. 2000. “The Global City: Strategic Site/New Frontier.” In *Democracy, Citizenship, and the Global City*, edited by E. F. Issin, 48–61. London: Routledge.

Saxenian, A. 1996. *Regional Advantage*. Cambridge, MA: Harvard University Press.

Schacter, J. 2001. “Why People Move: Exploring the March 2000 Current Population Series.” In *Current Population Reports, 1–10*. Washington, DC: US Census Bureau.

Schill, M. H., R. P. Nathan, and H. Persaud. 1983. *Revitalizing America's Cities: Neighborhood Reinvestment and Displacement*. Albany: State University of New York Press.

Schlack, E., and N. Turnbull. 2015. “Emerging Retail Gentrification in Santiago de Chile: The Case of Italia-Caupolicán.” In *Global Gentrifications: Uneven Development and Displacement*, edited by L. Lees, H. B. Shin, and E. Lopez-Morales, 347–367. Bristol: Policy Press.

Schlichtman, J. J., J. Patch, and M. L. Hill. 2017. *Gentrifier*. Toronto: University of Toronto Press.

Schuetz, J. 2014. “Do Rail Transit Stations Encourage Neighborhood Retail Activity?” Unpublished paper. Los Angeles: Price School of Public Policy, University of Southern California. https://lusk.usc.edu/sites/default/files/Retail-TOD-2_8_2014.pdf.

Schuetz, J., J. Kolko, and R. Meltzer. 2012. “Are Poor Neighborhoods ‘Retail Deserts?’ ” *Regional Science and Urban Economics* 42 (1–2): 269–285. https://doi.org/10.1016/j.regsciurbeco.2011.09.005.

Schwartz, H., R. Bostic, R. Green, V. Reina, L. Davis, and C. Augustine. 2016. *Preservation of Affordable Rental Housing: Evaluation of MacArthur Foundation’s Window of Opportunity Initiative*. Santa Monica, CA: RAND. https://www.macfound.org/press/publications/evaluation-macarthur-foundations-window-opportunitypreserving-affordable-rental-housing-initiative/.

Schwirian, K. P. 1983. “Models of Neighborhood Change.” *Annual Review of Sociology* 9:83–102.

Self, R. O. 2005. *American Babylon: Race and the Struggle for Postwar Oakland*. Princeton, NJ: Princeton University Press.

Shaver, K. 2017. “Montgomery, Prince George’s Reach Deal to Preserve Affordable Housing along Purple Line.” *Washington Post*, November 28, 2017, Transportation sec. https://www.washingtonpost.com/local/trafficandcommuting/montgomery-prince-georges-reach-deal-to-preserve-affordable-housing-along-purple-line/2017/11/28/8471df00-d462-11e7-b62d-d9345ced896d_story.html.

Shelburne, M. 2011. “States’ Use of Basis Boost Reflects Their Priorities.” *Novogradac: Journal of Tax Credits* 2 (2). http://www.novoco.com/journal/2011/02/news_lihtc_201102.php.

Shen, J., and F. Wu. 2013. “Moving to the Suburbs: Demand-Side Driving Forces of Suburban Growth in China.” *Environment and Planning A* 45 (8): 1823–1844.

Shin, H. B. 2009. “Property-Based Redevelopment and Gentrification: The Case of Seoul, South Korea.” *Geoforum* 40 (5): 906–917.

Shin, H. B., L. Lees, and E. López-Morales. 2016. “Introduction: Locating Gentrification in the Global East.” *Urban Studies* 53 (3): 455–470.

Shkuda, A. 2013. “The Art Market, Arts Funding, and Sweat Equity: The Origins of Gentrified Retail.” *Journal of Urban History* 39 (4): 601–619. https://doi.org/10.1177/0096144212443134.

Shkuda, A. 2015. “The Artist as Developer and Advocate: Real Estate and Public Policy in SoHo, New York.” *Journal of Urban History* 41 (6): 999–1016. https://doi.org/10.1177/0096144215602008.

Sides, J. 2003. *LA City Limits*. Berkeley: University of California Press.

Siemiatycki, M. 2006. “Message in a Metro: Building Urban Rail Infrastructure and Image in Delhi, India.” *International Journal of Urban and Regional Research* 30 (2): 277–292.

Sierra Club. 2018. “Sierra Club Opposes SB 827.” Citizen Marin, Mill Valley, CA. http://citizenmarin.org/news/sierra-club-opposes-sb-827/.

Sims, J. R. 2016. "More than Gentrification: Geographies of Capitalist Displacement in Los Angeles 1994–1999." *Urban Geography* 37 (1): 26–56.

Skobba, K., and E. G. Goetz. 2013. "Mobility Decisions of Very Low-Income Households." *Cityscape* 15 (2): 155–171.

Smart Growth America. 2013. *Building Better Budgets*. Washington, DC: Smart Growth America. https://smartgrowthamerica.org/resources/building-better-budgets-a-national-examination-of-the-fiscal-benefits-of-smart-growth-development/.

Smith, N. 1979a. "Gentrification and Capital: Practice and Ideology in Society Hill." *Antipode* 11 (3): 24–35.

Smith, N. 1979b. "Toward a Theory of Gentrification: A Back to the City Movement by Capital, Not People." *Journal of the American Planning Association* 45 (4): 538–548.

Smith, N., and P. Williams. 1986. *Gentrification of the City*. Abingdon: Routledge.

Smolka, M. O. 2013. *Implementing Value Capture in Latin America: Policies and Tools for Urban Development*. Cambridge, MA: Lincoln Institute of Land Policy. https://www.lincolninst.edu/sites/default/files/pubfiles/implementing-value-capture-in-latin-america-full_1.pdf.

Soja, E., R. Morales, and G. Wolff. 1983. "Urban Restructuring: An Analysis of Social and Spatial Change in Los Angeles." *Economic Geography* 59 (2): 195–230.

Soja, E. W. 2010. *Seeking Spatial Justice*. Minneapolis: University of Minnesota Press.

South, S. J., and K. D. Crowder. 1998. "Leaving the Hood: Residential Mobility between Black, White, and Integrated Neighborhoods." *American Sociological Review* 63 (1): 17–26.

Southeast Asian Community Alliance (SEACA). 2015. Authors' interview, February 4, 2015.

Southern California Association of Governments (SCAG). 2016. *Mission Impossible? Meeting California's Housing Challenge*. http://www.scag.ca.gov/Documents/CaliforniaHousingSummitReport.pdf.

Steckler, B., and L. Payne. 2012. *Hollywood: A Comeback Story and the Lessons Learned*. http://jcurrydesign.com/movela/wpcontent/uploads/2012/07/MoveLAHollywoodStory.pdf.

Stiglich, M. 2012. "Special Regulatory Zones and the Re-configuration of Planning in Lima." PhD diss., University of California, Berkeley.

Stoll, M. A. 2013. *Great Recession Spurs a Shift to Local Moves*. US2010 Project. Los Angeles: UCLA Luskin School of Public Affairs. https://s4.ad.brown.edu/Projects/Diversity/Data/Report/report02202013.pdf.

Storper, M. 2013. *Keys to the City: How Economics, Institutions, Social Interaction, and Politics Shape Development*. Princeton, NJ: Princeton University Press.

Sullivan, D. 2014. “From Food Desert to Food Mirage: Race, Social Class, and Food Shopping in a Gentrifying Neighborhood.” *Advances in Applied Sociology* 40 (1): 30–35. https://doi.org/10.4236/aasoci.2014.41006.

Sullivan, D. M. 2007. “Reassessing Gentrification Measuring Residents’ Opinions Using Survey Data.” *Urban Affairs Review* 42 (4): 583–592.

Sutton, S. A. 2010. “Rethinking Commercial Revitalization: A Neighborhood Small Business Perspective.” *Economic Development Quarterly* 24 (4): 352–371. https://doi.org/10.1177/0891242410370679.

Suzuki, H., R. Cervero, and K. Iuchi. 2013. *Transforming Cities with Transit: Transit and Land-Use Integration for Sustainable Urban Development*. Washington, DC: World Bank Publications.

Tackling Commercial Gentrification. 2015. “Commercial Rent Control.” *Tackling Commercial Gentrification* (blog), December 3, 2015. https://tacklingcommercialgentrification.wordpress.com/business-assistance-2/commercial-rent-control/.

Talocci, G., and C. Boano. 2015. “The Politics of Urban Displacement Practices in Phnom Penh: Reflections from Borei Santepheap Pi and Oudong Moi.” *Pacific Geographies* 43 (1): 15–20.

Tang, B. S., Y. H. Chiang, A. N. Baldwin, and C. W. Yeung. 2004. *Study of the Integrated Rail-Property Development Model in Hong Kong*. Hong Kong: Hong Kong Polytechnic Institute. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.232.9686&rep=rep1&type=pdf.

Tartar, A., and W. Lu. 2017. “These Cities Make New York City Housing Look Dirt Cheap.” *Bloomberg News*, October 19, 2017. https://www.bloomberg.com/news/articles/2017-10-19/these-cities-make-nyc-housing-look-dirt-cheap?utm_content=graphics&utm_campaign=socialflow-organic&utm_source=twitter&utm_medium=social&cmpid%3D=socialflow-twitter-graphics.

Taylor, M. M. 2002. *Harlem between Heaven and Hell*. Minneapolis: University of Minnesota Press.

Templeton, A. 2015. “Portland Council: Nearly Half of Urban Renewal Funding Will Go to Housing.” Oregon Public Broadcasting, October 23, 2015. http://www.opb.org/news/article/portland-council-nearly-half-of-urban-renewal-funding-will-go-to-housing/.

Terzano, K. 2014. “Commodification of Transitioning Ethnic Enclaves.” *Behavioral Sciences* 4 (4): 341–351. https://doi.org/10.3390/bs4040341.

Thorne-Lyman, A., A. Nemirow, J. Wood, and R. Hickey. 2008. *Realizing the Potential: One Year Later, Housing Opportunities near Transit in a Changing Market*. Washington, DC: Center for Transit-Oriented Development, Federal Transit Administration, US Department of Transportation.

Tiebout, C. M. 1956. "A Pure Theory of Local Expenditures." *Journal of Political Economy* 64 (5): 416–424.

Torrens, P. M., and A. Nara. 2007. "Modeling Gentrification Dynamics: A Hybrid Approach." *Computers, Environment, and Urban Systems* 31 (3): 337–361.

TransFormation Alliance. n.d. "TransFormation Alliance." http://atltransformation-alliance.org/ (accessed December 3, 2017).

Transit Cooperative Research Program (TCRP). 1996. *Commuter and Light Rail Transit Corridors: The Land Use Connection*. Washington, DC: Transit Cooperative Research Program.

Transit Cooperative Research Program (TCRP). 1997. *The Role of Transit in Creating Livable Metropolitan Communities*. Washington, DC: Transit Cooperative Research Program.

Transit Cooperative Research Program (TCRP). 2002. *Transit-Oriented Development and Joint Development in the United States: A Literature Review*. Washington, DC: Transit Cooperative Research Program.

Transit Cooperative Research Program. (TCRP). 2004. *Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects*. Washington, DC: Transit Cooperative Research Program.

Tseng, P., H. Bromfield, S. Gambhir, and S. Menendian. n.d. *Opportunity, Race, and Low-Income Housing Tax Credit Projects*. Berkeley: UC Berkeley Haas Institute. http://haasinstitute.berkeley.edu/sites/default/files/haasinstitute_lihtc_ca_publish_mar14.pdf.

Twin Cities LISC. 2016. *The Big Picture Project: Aligning Housing Plans along the Central Corridor*. 2016 Progress Report, Community Forum. http://www.funderscollaborative.org/wp-content/uploads/2016/04/BPPCommunitySession3.pdf.

UCLA Comprehensive Project. 2015. *Oriented for Whom? Impacts of TOD on Six Los Angeles Neighborhoods*. Los Angeles: UCLA Department of Urban Planning. http://164.67.121.27/files/UP/Comprehensive%20Projects/Spring%202015%20TOD.pdf.

Uitermark, J., J. W. Duyvendak, and R. Kleinhans. 2007. "Gentrification as a Governmental Strategy: Social Control and Social Cohesion in Hoogvliet, Rotterdam." *Environment and Planning A* 39 (1): 125–141.

United States Bureau of the Census. 2005. *Current Population Survey*. Washington, DC: US Census Bureau.

United States Bureau of the Census. 2013. American Community Survey (ACS) Public Use Microdata Sample (PUMS). Washington, DC: US Census Beureau.

United States Bureau of the Census. 2015. *Current Population Survey*. Washington, DC: US Census Bureau.

United States Bureau of the Census. 2017. *Current Population Survey*. Washington, DC: US Census Bureau.

United States Department of Commerce. 1964. *Traffic Assignment Manual*. Washington, DC: Bureau of Public Roads.

United States Department of Housing and Urban Development (HUD). 1979. *Displacement Report*. Washington, DC: US Department of Housing and Urban Development.

United States Department of Housing and Urban Development (HUD). 2017. "LIHTC Database Access." https://lihtc.huduser.gov/.

United States Government Accountability Office. 2001. *Mass Transit: Bus Rapid Transit Shows Promise*. http://www.gao.gov/products/GAO-01-984.

Urban Land Conservancy. n.d. "Denver Transit Oriented Development Fund." *Urban Land Conservancy* (blog). https://www.urbanlandc.org/denver-transit-oriented-development-fund/ (accessed December 6, 2017).

van Boxmeer, B., and E. van Beckhoven. 2005. "Public-Private Partnerships in Urban Regeneration: A Comparison of Dutch and Spanish PPPs." *European Journal of Housing Policy* 5 (1): 1–16.

van der Vlist, A. J., C. Gorter, P. Nijkamp, and P. Rietveld. 2002. "Residential Mobility and Local Housing-Market Differences." *Environment and Planning A* 34 (7): 1147–1164.

van Lierop, D., K. Maat, and A. El-Geneidy. 2017. "Talking TOD: Learning about Transit Oriented Development in the US, Canada, and the Netherlands." *Journal of Urbanism* 10 (1): 49–62.

Vigdor, J. L. 2002. "Does Gentrification Harm the Poor?" *Brookings-Wharton Papers on Urban Affairs*, 133–182. Washington, DC: Brookings Institution Press.

Visser, G., and N. Kotze. 2008. "The State and New-Build Gentrification in Central Cape Town, South Africa." *Urban Studies* 45 (12): 2565–2593.

Vives, R. 2017. "A Community in Flux: Will Boyle Heights Be Ruined by One Coffee Shop?" *Los Angeles Times*, July 18, 2017. http://www.latimes.com/local/lanow/la-me-boyle-heights-gentrification-coffee-20170621-story.html.

Wachs, M. 1996. "The Evolution of Transportation Policy in Los Angeles: Images of Past Policies and Future Prospects." In *The City*, edited by A. J. Scott and E. W. Soja, 106–159. Berkeley: University of California Press.

Waddell, P. 2002. "UrbanSim: Modeling Urban Development for Land Use, Transportation and Environmental Planning." *Journal of the American Planning Association* 68 (3): 297–314.

Waddell, P. 2011. "Integrated Land Use and Transportation Planning and Modeling: Addressing Challenges in Research and Practice." *Transport Reviews* 31 (2): 209–229.

Waddell, P., G. F. Ulfarsson, J. Franklin, and J. Lobb. 2007. "Incorporating Land Use in Metropolitan Transportation Planning." *Transportation Research Part A: Policy and Practice* 41 (5): 382–410.

Walker, R. 1996. "Another Round of Globalization in San Francisco." *Urban Geography* 17 (1): 60–94.

Walker, R. 2009. *The Country in the City: The Greening of the San Francisco Bay Area*. Seattle: University of Washington Press.

Wampler, E. 2014. "San Jose Diridon Station Area Plan Adopted!" http://www.greatcommunities.org/san-jose-diridon-station-area-plan-adopted/.

Wardrip, K. 2011. "Public Transit's Impact on Housing Costs: A Review of the Literature." *Insights from Housing Policy Research*. Washington, DC: Center for Housing Policy and National Housing Conference. http://www.transitcolumbus.org/wp-content/uploads/2012/12/TransitImpactonHsgCostsfinal_-_Aug_10_20111.pdf.

Warner, Bass S. 1962. *Streetcar Suburbs: The Process of Growth in Boston, 1870–1900*. Cambridge, MA: Harvard University Press.

Wasilco, J., K. Lefkowitz, and S. Katigbak. 2013. *The State of Highland Park*. http://www.highlandparknc.com/pdf/The_State_of_Highland_Park.pdf.

Webber, M. M. 1976. "The BART Experience—What Have We Learned?" *The Public Interest*, no. 33:79–108.

Wei, F., and P. L. Knox. 2014. "Spatial Transformation of Metropolitan Cities." *Environment and Planning A* 47 (1): 50–68.

Wilson, W. J., and R. P. Taub. 2006. *There Goes the Neighborhood: Racial, Ethnic, and Class Tensions in Four Chicago Neighborhoods and Their Meaning for America*. New York: Vintage Books.

Winkler, T. 2009. "Prolonging the Global Age of Gentrification: Johannesburg's Regeneration Policies." *Planning Theory* 8 (4): 362–381.

Wirth, L. 1938. "Urbanism as a Way of Life." *American Journal of Sociology* 44 (1): 1–24. doi:10.2307/2768119.

Wise, D., and M. Scire. 2009. "Affordable Housing in Transit-Oriented Development: Key Practices Could Enhance Recent Collaboration Efforts between DOT-FTA and HUD." GAO-09-871. Washington, DC: US Government Accountability Office.

Woo, S. 2009. "Oakland's Temescal Goes from Rundown to Reborn." *Wall Street Journal*, December 3, 2009. https://www.wsj.com/articles/SB125856546008953817.

Wood, A. (2014. "Learning through Policy Tourism: Circulating Bus Rapid Transit from South America to South Africa." *Environment and Planning A* 46 (11): 2654–2669.

Wu, F. 2004. "Residential Relocation under Market-Oriented Redevelopment: The Process and Outcomes in Urban China." *Geoforum* 35 (4): 453–470.

Wu, W. 2012. "Does Public Investment Spur the Land Market? Evidence from Transport Improvement in Beijing." SERC Discussion Papers. London: London School of Economics and Political Science.

Wyly, E., and D. J. Hammel. 1999. "Islands of Decay in Seas of Renewal: Housing Policy and the Resurgence of Gentrification." *Housing Policy Debate* 10 (4): 711–771.

Wyly, E., and D. J. Hammel. 2001. "Gentrification, Housing Policy, and the New Context of Urban Development." *Research in Urban Sociology* 6:211–276.

Wyly, E., K. Newman, A. Schafran, and E. Lee. 2010. "Displacing New York." *Environment and Planning A* 42 (11): 2602–2623. doi:10.1068/a42519.

Yang, P. P-J., and S. H. Lew. 2009. "An Asian Model of TOD: The Planning Integration in Singapore." In *Transit Oriented Development: Making It Happen*, edited by C. Curtis, J. Renne, and L. Bertolini, 91–108. Surrey: Ashgate.

Yntiso, G. 2008. "Urban Development and Displacement in Addis Ababa: The Impact of Resettlement Projects on Low-Income Households." *Eastern Africa Social Science Research Review* 24 (2): 53–77.

Zhang, Y., and K. Fang. 2004. "Is History Repeating Itself?" *Journal of Planning Education and Research* 23 (3): 286–298.

Zheng, S., and M. E. Kahn. 2013. "Does Government Investment in Local Public Goods Spur Gentrification? Evidence from Beijing." *Real Estate Economics* 41 (1): 1–28. https://doi.org/10.1111/j.1540-6229.2012.00339.x.

Zhong, H., and W. Li. 2016. "Rail Transit Investment and Property Values: An Old Tale Retold." *Transport Policy* 51:33–48.

Zimmerman, M., and K. Lukacs. 2015. *Creating and Preserving Affordable Housing through the Federal Transit Capital Investment Program: An Analysis of the FY2016 Federal Funding Recommendations*. MZ Strategies. https://static1.squarespace.com/static/5021cc16e4b0c203353d08c5/t/54fda892e4b021ab8422a92a/1425909906123/FTA+FY2016+transit+AH_Overview_mzstrategies.pdf.

Zuk, M., A. H. Bierbaum, K. Chapple, K. Gorska, and A. Loukaitou-Sideris. 2017. "Gentrification, Displacement, and the Role of Public Investment." *Journal of Planning Literature 33* (1): 31–44.

Zuk, M., A. H. Bierbaum, K. Chapple, K. Gorska, A. Loukaitou-Sideris, P. Ong, and T. Thomas. 2015. *Gentrification, Displacement and the Role of Public Investment: A Literature Review*. San Francisco: Federal Reserve Bank of San Francisco.

Zuk, M., and I. Carlton. 2015. *Equitable Transit Oriented Development: Examining the Progress and Continued Challenges of Developing Affordable Housing in Opportunity and Transit-Rich Neighborhoods*. Poverty and Race Research Action Council (PRRAC). http://prrac.org/pdf/EquitableTOD.pdf.

Zuk, M., A. Cash, P. Dow, and J. Marcus. 2017. "Investment without Displacement: Increasing the Affordable Housing Supply." Silicon Valley Community Foundation. http://www.urbandisplacement.org/sites/default/files/images/creating_new_ah.pdf.

Zuk, M., and K. Chapple. 2015a. *Case Studies on Gentrification and Displacement in the San Francisco Bay Area.* Berkeley, CA: UC Berkeley Center for Community Innovation.

Zuk, M., and K. Chapple. 2015b. *Urban Displacement Project*. http://www.urbandisplacement.org.

Zuk, M., and K. Chapple. 2016. "Housing Production, Filtering and Displacement: Untangling the Relationships." Research Brief. Berkeley: Institute of Government Studies, University of California Berkeley. http://escholarship.org/uc/item/7bx938fx.pdf.

Zukin, S. 1982a. *Loft Living: Culture and Capital in Urban Change*. Johns Hopkins Studies in Urban Affairs. Baltimore: Johns Hopkins University Press.

Zukin, S. 1982b. "Loft Living as 'Historic Compromise' in the Urban Core: The New York Experience." *International Journal of Urban and Regional Research* 6 (2): 256–267.

Zukin, S. 1987. "Gentrification: Culture and Capital in the Urban Core." *Annual Review of Sociology* 13 (1): 129–147. doi:10.1146/annurev.so.13.080187.001021.

Zukin, S., P. Kasinitz, and X. Chen. 2015. *Global Cities, Local Streets: Everyday Diversity from New York to Shanghai*. London: Routledge. https://www.amazon.com/Global-Cities-Local-Streets-Diversity/dp/1138023930.

Zukin, S., and E. Kosta. 2004. "Bourdieu Off-Broadway: Managing Distinction on a Shopping Block in the East Village." *City and Community* 3 (2): 101–114.

Zukin, S., V. Trujillo, P. Frase, D. Jackson, T. Recuber, and A. Walker. 2009. "New Retail Capital and Neighborhood Change: Boutiques and Gentrification in New York City." *City and Community* 8 (1): 47–64. https://doi.org/10.1111/j.1540-6040.2009.01269.x.

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